Colorado Department of Public Health and Environment

OPERATING PERMIT

SandRidge Exploration and Production, LLC
Bighorn Pad

First Issued: DATE

AIR POLLUTION CONTROL DIVISION
COLORADO OPERATING PERMIT

FACILITY NAME: Bighorn Pad

OPERATING PERMIT NUMBER

17OPJA401

FACILITY ID: 057/0051

ISSUED: DRAFT
EXPIRATION DATE: DRAFT
MODIFICATIONS: See Appendix F of Permit

Issued in accordance with the provisions of Colorado Air Pollution Prevention and Control Act, 25-7-101 et seq. and applicable rules and regulations.

ISSUED TO:

SandRidge Exploration and Production, LLC

123 Robert S. Kerr Ave.
Oklahoma City, OK 73102

PLANT SITE LOCATION:

Bighorn Pad

NWNW Sec 17 T7N R80W
Jackson County, CO

INFORMATION RELIED UPON
Operating Permit Renewal Application Received: September 19, 2017
And Additional Information Received: March 16, 2018

Nature of Business: Natural Gas Compression
Primary SIC: 1311

RESPONSIBLE OFFICIAL
Name: Eli Harrington
Title: Director of Operations

Phone: (405)441-2311

FACILITY CONTACT PERSON
Name: Dale Birdwell
Title: EHS Manager

Phone: (405)429-5562

SUBMITTAL DEADLINES –

First Semi-Annual Monitoring Period:	October 1, 2010 – December 31, 2010
Subsequent Semi-Annual Monitoring Periods:	January 1 – June 30, July 1 – December 31
Semi-Annual Monitoring Reports:	Due February 1, 2011 & August 1, 2011 & subsequent years
First Annual Compliance Period:	October 1, 2010 – December 31, 2010
Subsequent Annual Compliance Periods:	January 1 – December 31
Annual Compliance Certification:	Due February 1, 2011 & subsequent years

Note that the Semi-Annual Monitoring Reports and Annual Compliance report must be received at the Division office by 5:00 p.m. on the due date. Postmarked dates will not be accepted for the purposes of determining the timely receipt of those reports.

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SECTION I - General Activities and Summary

1. Permitted Activities

1.1 The Bighorn Pad is a multi-well oil and gas production facility, which produces crude oil, and produced water from twenty-three (23) wells; seven (7) of these wells also produce sweet gas. The commingled stream flows from the wellhead unassisted. The production stream flows from the wellheads to four (4) heater-treaters.

From the heater-treater, the crude oil phase is directed to twenty-five (25) 1,100-bbl crude oil storage tanks. The water phase is piped to six (6) 1,100-bbl produced water storage tanks. Hydrocarbon vapors are sent from the crude oil and produced water tanks to a smokeless combustor with a minimum destruction efficiency of 98.5 percent. All the natural gas from the heater-treaters are routed to two (2) dual TCI 4800 enclosed combustors and controlled by 98 percent. Each of the dual TCI combustors has only one operational stack, and the other stack is shut in. Crude oil and produced water are trucked out of the facility using tank trucks and submerged fill loading. Vapors from the truck loadout are routed to a dedicated enclosed VOC combustor and controlled by 95 percent. Fugitive emissions are present at this location due to leakage from component seats and seals.

The Bighorn Pad is located in Jackson County, Colorado, approximately 13 miles south of Walden, CO in the NWNW of Section 17, Township 7N, Range 80W. Wyoming is the only affected state within 50 miles of the facility. The following Federal Class I designated areas are within 100 kilometers of the facility: Flat Tops Wilderness Area, Mount Zirkel Wilderness Area, Rawah Wilderness Area, and Rocky Mountain National Park.

1.2 Until such time as this permit expires or is modified or revoked, the permittee is allowed to discharge air pollutants from this facility in accordance with the requirements, limitations, and conditions of this permit.

1.3 The Operating Permit incorporates the applicable requirements contained in the underlying construction permits, and does not affect those applicable requirements, except as modified during review of the application or as modified subsequent to permit issuance using the modification procedures found in Regulation No. 3, Part C. These Part C procedures meet all applicable substantive New Source Review requirements of Part B. Any revisions made using the provisions of Regulation No. 3, Part C shall become new applicable requirements for purposes of this Operating Permit and shall survive reissuance. This permit incorporates the applicable requirements (except as noted in Section II) from the following construction permits: 16JA1055.

1.4 All conditions in this permit are enforceable by US Environmental Protection Agency, Colorado Air Pollution Control Division (hereinafter Division) and its agents, and citizens unless otherwise specified. **State-only enforceable conditions are:** Permit Condition Number(s): Section IV - Conditions 3.g (last paragraph), 14 & 18 (as noted), Section II – Conditions 5.6, 5.4, and 5.

1.5 All information gathered pursuant to the requirements of this permit is subject to the Recordkeeping and Reporting requirements listed under Condition 22 of the General Conditions in Section IV of this permit. Either electronic or hard copy records are acceptable.

2. Prevention of Significant Deterioration

2.1 This facility is located in an area designated attainment for all pollutants. Based on the information provided by the applicant, this source is categorized as a synthetic minor stationary source for PSD as of the issue date of this permit. Any future modification which is major by itself (Potential to Emit of ≥ 250 TPY) for any pollutant listed in Regulation No. 3, Part D, Section II.A.44 for which the area is in attainment or attainment/maintenance may result in the application of the PSD review requirements.

2.2 There are no other Operating Permits associated with this facility for purposes of determining applicability of Prevention of Significant Deterioration regulations.

3. Accidental Release Prevention Program (112(r))

4. Based on the information provided by the applicant, the facility is not subject to the provisions of the Accidental Release Prevention Program (section 112(r) of the Federal Clean Air Act).

5. Compliance Assurance Monitoring (CAM)

5.1 The following emission points at this facility use a control device to achieve compliance with an emission limitation or standard to which they are subject and have pre-control emissions that exceed or are equivalent to the major source threshold. They are therefore subject to the provisions of the CAM program as set forth in 40 CFR Part 64, as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV:

Point 001 – Crude Oil Tanks for VOC

Point 002 – Flare-1 for VOC

Point 003 (PW Tanks) has pre-control emissions of VOC that exceed major source thresholds. The tanks are not large pollutant specific emission units (i.e. potential controlled emissions, including limits, are less than major source thresholds), therefore the applicant is not required to submit a CAM plan until the permit is renewed (if applicable).

See Section II, Conditions 2.9 and Appendix G for Compliance Assurance Monitoring requirements.

Please note that all other emission units at the facility are either uncontrolled, or have pre-control emissions less than the major source threshold and are not subject to CAM.

6. Summary of Emission Units

6.1 The emissions units regulated by this permit are the following:

Facility ID	AIRS ID	Description	Pollution Control
Crude Oil Tanks	001	Twenty-five (25) 1,100 barrel fixed roof storage vessels used to store crude oil	Enclosed Combustor (Zeeco EGF-7-40) with Open Flare (Zeeco UF6-40) for Emergency Backup
Flare-1	002	Two Heater Treaters and Two Associated Enclosed Combustors	Enclosed Combustors (Two TCI 800 dual-stack)
PW Tanks	003	Six (6) 1,1000 barrel fixed roof storage vessels used to store produced water	Enclosed Combustor (Zeeco EGF-7-40) with Open Flare (Zeeco UF6-40) for Emergency Backup
Crude Load-out	004	Truck loadout of crude oil	Enclosed Combustor (Zeeco EGF-7-40) with Open Flare (Zeeco UF6-40) for Emergency Backup
NA	NA	Zeeco UF6-40	NA

SECTION II - Specific Permit Terms

1. Crude Oil Tanks – Twenty-five (25) 1,100 barrel Fixed Roof Storage Vessels used to Store Crude Oil, Controlled with a Zeeco EGF-7-40 Enclosed Combustor and a Zeeco UF6-40 Emergency Backup Open Flare (AIRS ID: 001)

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor	Monitoring	
				Method	Interval
VOC	1.1	101.7 tons per year	ProMax or Division-Approved Equivalent	Simulation and Twelve Month Rolling Total Calculation	Monthly
NO_X		9.3 tons per year	0.068 lb/MMBtu	Recordkeeping and 12-Month Rolling Total Calculation	Monthly
CO		42.4 tons per year	0.31 lb/MMBtu		
Composition Analysis (Low Pressure Oil)				Recordkeeping, Sampling, and Analysis	Annually
Sales Crude Oil Analysis					
Crude Oil Produced	1.2	1,082,371 bbl per year		Flow Meter	Monthly
Hours of Operation	1.3			Recordkeeping	Monthly
Flare Opacity	1.4	Less Than or Equal to 30% Opacity		See Condition 1.4	
Stack Height	1.5	Minimum of 40 feet		See Condition 1.5	
Compliance Testing	1.6			See Condition 1.6	Semi-Annual
Compliance Assurance Monitoring	1.7			See Condition 1.7	
Statewide Controls for Oil & Gas Operations	5	95% VOC control 95% hydrocarbon control 98% design destruction efficiency for hydrocarbons		See Condition 5	
40 CFR 60 (NSPS) Subpart OOOOa	7	See Condition 7			

1.1 Emissions of air pollutants from the tank battery shall not exceed the limitations listed in Summary Table 1 above (Construction Permit 16JA1055). Compliance with the annual limit shall be monitored on a rolling 12-month total. By the end of each month a new twelve month total is calculated based on the previous twelve months data. Monthly emissions of VOC and HAPs shall be calculated using BR&E's ProMax. Emissions for each month shall be calculated using the input parameters in Condition 1.1.2, the results of the crude oil sample analyses in Conditions 1.1.5 and 1.1.6, the monthly quantity of crude oil sold as determined by Condition 1.2, and the hours of control device operation in Condition 1.3. Monthly emissions of VOC and HAP shall be monitored using the following equation:

$$\textbf{VOC or HAP emissions}\left(\frac{\textbf{tons}}{\textbf{month}}\right) = \frac{\textit{Model Output for Unontrolled VOC or HAP}\left(\frac{lb}{hr}\right) \times \Sigma\left(\textit{Operating Scenario Hours}\left(\frac{hrs}{month}\right) \times \left(1 - \frac{CE(\%)}{100}\right)\right)}{\textit{Unit Conversion}\left(\frac{2000\ lb}{ton}\right)}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual emission limitation. Each month, a new twelve month total shall be calculated using the previous twelve months' data. Records of calculations shall be kept in a log to be made available to the Division upon request.

1.1.1 Control Efficiencies

1.1.1.1 A control efficiency (CE) of 98.5% shall be applied to the Zeeco EGF-7-40 Enclosed Combustor when it is operational and emissions are routed to it, provided the requirements of Conditions 1.6 and 5.1.2 are met.

1.1.1.2 A control efficiency (CE) of 95% shall apply during periods of enclosed combustor downtime when emissions from the crude oil tanks are routed to the Zeeco UF6-40 Emergency Backup Open Flare.

1.1.2 The input parameters to ProMax shall be monitored as follows:

1.1.2.1 Monthly averages of the following monitored values shall be determined for use as inputs to the ProMax model. Monthly average values shall be representative of the unit's operation during the month. The recorded values for separator temperature and pressure shall be used to calculate emissions as required by Condition 1.1.

Parameter	Monitoring Frequency
Separator Temperature	Weekly
Separator Pressure	Weekly

1.1.3 Nitrogen Oxides (NO_X), and Carbon Monoxide (CO) emissions from control device associated with the tanks shall not exceed the limitations stated above (Colorado Construction Permit 16JA1055,). Compliance with the emission limitations shall be monitored as follows:

NO_X, and CO emissions from the tank battery shall be calculated monthly using the following equation:

$$Emissions_{CO,NOx}\left(\frac{tons}{month}\right) = \frac{\textit{Emission Factor}\left(\frac{lb}{MMBtu}\right) \times \left(\textit{Waste Gas Heating Value}\left(\frac{Btu}{scf}\right) \times GOR\left(\frac{scf}{bbl}\right) \times \textit{Condensate Throughput}\left(\frac{bbl}{month}\right)\right)}{2000\left(\frac{lbs}{ton}\right) \times 10^6\left(\frac{Btu}{MMBtu}\right)}$$

Monthly emissions shall be calculated by the end of the subsequent month using the above emission factors in the table above, the monthly crude oil throughput as specified in Condition 1.2 and the Gas to Oil Ratio (GOR) and Heating Value calculated by the monthly ProMax run required above in the following equation. Monthly emissions shall be used in a rolling twelve month total to monitor compliance with the annual limitations. Each month a new twelve

month total shall be calculated using the previous twelve months' data. Compliance records shall be maintained and made available to the Division upon request.

1.1.4 For purposes of calculating emissions using the ProMax software as required by Condition 1.1, the permittee shall use the historical monthly mean temperature recorded at Coalmont, CO. The appropriate atmospheric pressure based on the unit's elevation shall be used.

1.1.5 The permittee shall sample and analyze liquids annually for the compositional ProMax input requirements. The 'low pressure oil' crude oil sample must be collected and analyzed per Division approved methods as specified in Permit Section Memo 05-01 (https://www.colorado.gov/pacific/cdphe/permitting-guidance-memos). The stream shall be sampled at the outlet of the separator, prior to flashing, or at another appropriate location if approved by the Division. Sampling must occur when the systems are operating such that any xylene and/or methanol injections that occur upstream of the facility are captured by the sampling. A copy of the procedures used to obtain and analyze the samples as well as records of the analyses shall be maintained and made available to the Division upon request.

1.1.6 The sales crude oil shall be sampled and analyzed annually to determine the Reid Vapor Pressure (RVP) and API Gravity using Division approved methods as specified in Permit Section Memo 05-01 (https://www.colorado.gov/pacific/cdphe/permitting-guidance-memos). A copy of the procedures used to obtain and analyze samples shall be maintained and made available to the Division upon request. The RVP and API Gravity determined by the analysis shall be used to calculate emissions as required by Condition 1.1.

1.2 The quantity of crude oil processed through the tank battery shall not exceed the limit listed in Summary Table 1 above (Construction Permit 16JA1055,). The quantity of crude oil processed through the tank battery shall be monitored with a volumetric flow meter and recorded monthly and used to calculate emissions as required by Condition 1.1. The monthly quantity of crude oil processed shall be used in a twelve month rolling total to monitor compliance with the annual limitation. Each month a new twelve month total shall be calculated using the previous twelve months' data.

1.3 Individual hours of operation of the Zeeco EGF-7-40 Enclosed Combustor and the Zeeco UF6-40 Emergency Backup Open Flare shall be monitored and recorded monthly in a log to be made available to the Division upon request. Monthly hours of operation shall be used to monitor compliance with the annual VOC emission limitation, as required by Condition 1.1.

1.4 No owner or operator of a smokeless flare or other flare for the combustion of waste gases shall allow or cause emissions into the atmosphere of any air pollutant which is in excess of 30% opacity for a period or periods aggregating more than six minutes in any sixty consecutive minutes. (Colorado Regulation No. 1, II.A.5)

In the absence of credible evidence to the contrary, compliance with this opacity requirement is presumed provided the requirements of Condition 5.4.5.2 are met.

1.5 The stack height for this flare shall comply with the limitations stated in the table above (Colorado Construction Permit 16JA1055).

1.6 On a semi-annual basis, a source compliance test shall be conducted on the Zeeco EGF-7-40 enclosed combustor to measure the emission rate of Volatile Organic Compounds (VOC) in order to demonstrate the enclosed combustor achieves a minimum destruction efficiency of 98.5% for VOC, and to monitor compliance with the annual emission limits found in Condition 1.1. The operator shall determine the mass emission rates of VOC at the inlet and outlet of the control device to determine the destruction efficiency of the enclosed combustor. The volume of gas routed to the enclosed combustor from these points shall be monitored and recorded during this test. Testing shall be performed using the appropriate EPA Reference Methods. (Colorado Construction Permit 16JA1055)

The test protocol, test, and test report must be in accordance with the requirements of the APCD Compliance Test Manual (https://www.colorado.gov/pacific/cdphe/inspections-and-enforcement). A stack testing protocol shall be submitted for Division approval at least thirty (30) calendar days prior to any performance of the test required under this condition. No stack test required herein shall be performed without prior approval of the protocol by the Division. The Division reserves the right to witness the test. In order to facilitate the Division's ability to make plans to witness the test, notice of the date(s) for the stack test shall be submitted to the Division at least thirty (30) calendar days prior to the test. The Division may for good cause shown, waive this thirty (30) day notice requirement. In instances when a scheduling conflict is presented, the Division shall immediately contact the permittee in order to explore the possibility of making modifications to the stack test schedule. The compliance test results shall be submitted to the Division within forty-five (45) calendar days of the completion of the test unless a longer period is approved by the Division. No compliance test shall be conducted less than one hundred fifty (150) days subsequent to any performance test used to demonstrate compliance with any Periodic Testing Requirements in this permit. (Colorado Construction Permit 16JA1055, as modified under the provisions of Section I, Condition 1.3)

1.7 The Compliance Assurance Monitoring (CAM) requirements in 40 CFR Part 64, as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV, apply to Point 001 (Crude Oil Tanks) with respect to volatile organic compounds (VOC) limitations identified in Condition 1.1 as follows:

1.7.1 The permittee shall follow the CAM Plan provided in Appendix G of this permit. Excursions, for purposes of reporting are as follows:

1.7.1.1 The absence of a continuous pilot light; or

1.7.1.2 The presence of visible emissions; or

Excursions shall be reported as required by Section V, Conditions 21 and 22.d of this permit.

1.7.2 Operation of Approved Monitoring

1.7.2.1 At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment. (40 CFR Part 64 § 64.7(b), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.2.2 Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration

checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of these CAM requirements, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. (40 CFR Part 64 § 64.7(c), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.2.3 Response to excursions or exceedances

a. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable. (40 CFR Part 64 § 64.7(d)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

b. Determination of whether the owner of operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process. (40 CFR Part 64 § 64.7(d)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.2.4 After approval of the monitoring required under the CAM requirements, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the Division and, if necessary submit a proposed modification for this

permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. (40 CFR Part 64 § 64.7(e), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.3 Quality Improvement Plan (QIP) Requirements

1.7.3.1 Based on the results of a determination made under the provisions of Condition 1.18.2.3.b, the Division may require the owner or operator to develop and implement a QIP. (40 CFR Part 64 § 64.8(a), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.3.2 The owner or operator shall maintain a written QIP, if required, and have it available for inspection. (40 CFR Part 64 § 64.8(b)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.3.3 The QIP initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:

a. Improved preventative maintenance practices. (40 CFR Part 64 § 64.8(b)(2)(i), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

b. Process operation changes. (40 CFR Part 64 § 64.8(b)(2)(ii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

c. Appropriate improvements to control methods. (40 CFR Part 64 § 64.8(b)(2)(iii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

d. Other steps appropriate to correct control performance. (40 CFR Part 64 § 64.8(b)(2)(iv), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

e. More frequent or improved monitoring (only in conjunction with one or more steps under Conditions 1.18.3.3.a through d above). (40 CFR Part 64 § 64.8(b)(2)(v), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.3.4 If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the Division if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined. (40 CFR Part 64 § 64.8(c), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.3.5 Following implementation of a QIP, upon any subsequent determination pursuant to Condition 1.18.2.3.b, the Division or the U.S. EPA may require that an owner or

operator make reasonable changes to the QIP if the QIP is found to have:

a. Failed to address the cause of the control device performance problems (40 CFR Part 64 § 64.8(d)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV); or

b. Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. (40 CFR Part 64 § 64.8(d)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.3.6 Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the federal clean air act. (40 CFR Part 64 § 64.8(e), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.4 Reporting and Recordkeeping Requirements

1.7.4.1 Reporting Requirements: The reports required by Section V, Condition 22.d, shall contain the information specified in Appendix B of the permit and the following information, as applicable:

a. Summary information on the number, duration and cause (including unknown cause, if applicable), for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable) ((40 CFR Part 64 § 64.9(a)(2)(ii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV); and

b. The owner or operator shall submit, if necessary, a description of the actions taken to implement a QIP during the reporting period as specified in Condition 1.18.3 of this permit. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring. (40 CFR Part 64 § 64.9(a)(2)(iii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.4.2 General Recordkeeping Requirements: In addition to the recordkeeping requirements in Section V, Condition 22.a through c.

a. The owner or operator shall maintain records of any written QIP required pursuant to Condition 1.18.3 and any activities undertaken to implement a QIP, and any supporting information required to be maintained under these CAM requirements (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). (40 CFR Part 64 § 64.9(b)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

b. Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. (40 CFR Part 64 § 64.9(b)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.5 Savings Provisions

1.7.5.1 Nothing in these CAM requirements shall excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the federal clean air act. These CAM requirements shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purposes of determining the monitoring to be imposed under separate authority under the federal clean air act, including monitoring in permits issued pursuant to title I of the federal clean air act. The purpose of the CAM requirements is to require, as part of the issuance of this Title V operating permit, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of CAM. (40 CFR Part 64 § 64.10(a)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.5.2 Nothing in these CAM requirements shall restrict or abrogate the authority of the U.S. EPA or the Division to impose additional or more stringent monitoring, recordkeeping, testing or reporting requirements on any owner or operator of a source under any provision of the federal clean air act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable. (40 CFR Part 64 § 64.10(a)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

1.7.5.3 Nothing in these CAM requirements shall restrict or abrogate the authority of the U.S. EPA or the Division to take any enforcement action under the federal clean air act for any violation of an applicable requirement or of any person to take action under section 304 of the federal clean air act. (40 CFR Part 64 § 64.10(a)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2. Flare-1 – Two (2) Heater Treaters and Two (2) Associated TCI 4800 Enclosed Combustors for Flaring of Produced Gas from Heater-Treaters (AIRS ID: 002)

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor	Monitoring	
				Method	Interval
VOC	2.1	100.7 tons per year	ProMax or Division-Approved Equivalent	Simulation and Twelve Month Rolling Total Calculation	Monthly
NO_X	2.2	20.6 tons per year	0.068 lb/MMBtu	Recordkeeping and Twelve Month Rolling Calculation	Monthly
CO		93.5 tons per year	0.31 lb/MMBtu		
PM2.5		2.3 tons per year	0.0075 lb/MMBtu		
Natural Gas Throughput	2.3	438.0 MMscf per year		Flow Meter	Monthly
Extended Wet Gas Analysis	2.4			ASTM or other Division Approved Method	Annually
Btu Content	2.5			ASTM or other Division Approved Method	Annually
Stack Height	2.6	Minimum of 27.8 feet		See Condition 2.6	
Opacity	2.7	Less Than or Equal to 30%		See Condition 2.7	
Compliance Testing	2.8			See Condition 2.8	Semi-Annually
Compliance Assurance Monitoring	2.9			See Condition 2.9	
Statewide Controls for Oil & Gas Operations	5	95% hydrocarbon control 98% design destruction efficiency for hydrocarbons		See Condition 5	
40 CFR 60 (NSPS) Subpart OOOOa	7	See Condition 7			

2.1 Emissions of air pollutants from the heater-treaters and enclosed combustor shall not exceed the limitations listed in Summary Table 1 above (Construction Permit 16JA1055). Compliance with the annual limit shall be monitored on a rolling 12-month total. By the end of each month a new twelve month total is calculated based on the previous twelve months data. Monthly emissions of VOC and HAPs shall be calculated using BR&E's ProMax. Emissions for each month shall be calculated using the input parameters and the sales oil properties specified in Condition 2.1.1, the monthly throughput or waste gas to the enclosed combustor as determined by Condition 2.3. A control efficiency of 98% may be used in the ProMax model whenever the requirements of Condition 2.8 are met. Monthly calculations of emissions shall be conducted by the end of the subsequent month. Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual emission limitation. Each month, a

new twelve month total shall be calculated using the previous twelve months' data. Records of calculations shall be kept in a log to be made available to the Division upon request.

2.1.1 The input parameters to ProMax shall be monitored as follows:

2.1.1.1 Monthly averages of the following monitored values shall be determined for use as inputs to the ProMax model. Monthly average values shall be representative of the unit's operation during the month. The recorded values for separator temperature and pressure shall be used to calculate emissions as required by Condition 2.1.

Parameter	Monitoring Frequency
Separator Temperature	Weekly
Separator Pressure	Weekly

2.2 Emissions of Nitrogen Oxides (NO_X), Carbon Monoxide (CO), and $PM_{2.5}$ from the enclosed combustor shall not exceed the limitation stated above (Colorado Construction Permit 16JA1055, as provided for under the provisions of Section I, Condition 1.3). Compliance with the emission limitations shall be calculated as follows:

$$Emissions_{NOx,CO.PM2.5}\left(\frac{tons}{month}\right) = \frac{Emission\ Factor\left(\frac{lbs}{MMBtu}\right) \times Gas\ Flared\left(\frac{MMscf}{month}\right) \times Heat\ Value\left(\frac{Btu}{scf}\right)}{2000\left(\frac{lbs}{ton}\right)}$$

Monthly emissions shall be calculated by the end of the subsequent month using the above emission factor, the Btu content of the gas being combusted [Condition 2.5], and the monthly fuel consumption [Condition 2.3], and the results of the most recent gas analysis [Condition 2.4], calculated by summing the pilot gas and the BR&E's ProMax output from the separators in the equation above. Monthly emissions shall be used in a rolling twelve month total to monitor compliance with the annual limitations. Each month a new twelve month total shall be calculated using the pervious twelve months data.

2.3 The quantity of gas combusted shall not exceed the above limitation (Colorado Construction Permit 16JA1055). The combusted gas throughput shall be used to calculate monthly emissions to be used in a rolling twelve month total as specified in Conditions 2.1 and 2.2. The owner or operator shall continuously monitor and record the volumetric flow rate of natural gas vented from the separators using the flow meter. The quantity of gas combusted shall be kept in a log and made available to the Division upon request. Monthly gas combustion by the enclosed combustor shall be used in a twelve month rolling total to monitor compliance with the annual imitation. Each month a new twelve month total shall be calculated using the previous twelve months data.

2.4 Samples of gas vented to the enclosed combustors associated with this point shall be collected and analyzed (extended wet gas analysis) annually to determine C1 to C6, n-hexane, benzene, toluene, ethyl benzene and total xylene (BTEX) composition. Results of the Analysis shall be used in the monthly

ProMax model run, as required by Condition 2.1. Results of the extended wet gas analysis be retained and made available to the Division upon request.

2.5 The heat content of the gas produced by the heater treaters shall be verified annually, or once every twelve months, using the appropriate ASTM Methods or equivalent, if approved in advance by the Division. The heat content of the gas shall be based on the higher heating value (HHV) of the fuel. Results of the heat content verification shall be retained and made available to the Division upon request.

The heat content indicated by the most recent analysis shall be used in the calculation of monthly NO_X and CO as required by Condition 2.2.

2.6 The stack height for this enclosed combustor shall comply with the limitations stated in the table above (Colorado Construction Permit 16JA1055).

2.7 Visible emissions from the enclosed combustor shall not exceed thirty percent (30%) opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes (Colorado Regulation No. 1, Section II.A.5)

In absence of credible evidence to the contrary, compliance with the opacity limitation shall be presumed as long as Condition 5.4.5.2 is met.

2.8 On a semi-annual basis, a source compliance test shall be conducted on the TCI 4800 control device to measure the emission rate of Volatile Organic Compounds (VOC) in order to demonstrate the enclosed combustor achieves a minimum destruction efficiency of 98% for VOC, and to monitor compliance with the annual emission limits found in Condition 2.1. The operator shall determine the mass emission rates of VOC at the inlet and outlet of the control device to determine the destruction efficiency of the enclosed combustor. The volume of gas routed to the enclosed combustor from these points shall be monitored and recorded during this test. Testing shall be performed using the appropriate EPA Reference Methods. (Colorado Construction Permit 16JA1055)

The test protocol, test, and test report must be in accordance with the requirements of the APCD Compliance Test Manual (https://www.colorado.gov/pacific/cdphe/inspections-and-enforcement). A stack testing protocol shall be submitted for Division approval at least thirty (30) calendar days prior to any performance of the test required under this condition. No stack test required herein shall be performed without prior approval of the protocol by the Division. The Division reserves the right to witness the test. In order to facilitate the Division's ability to make plans to witness the test, notice of the date(s) for the stack test shall be submitted to the Division at least thirty (30) calendar days prior to the test. The Division may for good cause shown, waive this thirty (30) day notice requirement. In instances when a scheduling conflict is presented, the Division shall immediately contact the permittee in order to explore the possibility of making modifications to the stack test schedule. The compliance test results shall be submitted to the Division within forty-five (45) calendar days of the completion of the test unless a longer period is approved by the Division. No compliance test shall be conducted less than one hundred fifty (150) days subsequent to any performance test used to demonstrate compliance with any

Periodic Testing Requirements in this permit. (Colorado Construction Permit 16JA1055, as modified under the provisions of Section I, Condition 1.3)

2.9 The Compliance Assurance Monitoring (CAM) requirements in 40 CFR Part 64, as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV, apply to Point 002 (Flare-1) with respect to volatile organic compounds (VOC) limitations identified in Condition 1.1 as follows:

2.9.1 The permittee shall follow the CAM Plan provided in Appendix G of this permit. Excursions, for purposes of reporting are as follows:

2.9.1.1 The absence of a continuous pilot light; or

2.9.1.2 The presence of visible emissions; or

Excursions shall be reported as required by Section V, Conditions 21 and 22.d of this permit.

2.9.2 Operation of Approved Monitoring

2.9.2.1 At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment. (40 CFR Part 64 § 64.7(b), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.2.2 Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of these CAM requirements, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. (40 CFR Part 64 § 64.7(c), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.2.3 Response to excursions or exceedances

a. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence

of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable. (40 CFR Part 64 § 64.7(d)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

b. Determination of whether the owner of operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process. (40 CFR Part 64 § 64.7(d)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.2.4 After approval of the monitoring required under the CAM requirements, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the Division and, if necessary submit a proposed modification for this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. (40 CFR Part 64 § 64.7(e), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.3 Quality Improvement Plan (QIP) Requirements

2.9.3.1 Based on the results of a determination made under the provisions of Condition 1.18.2.3.b, the Division may require the owner or operator to develop and implement a QIP. (40 CFR Part 64 § 64.8(a), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.3.2 The owner or operator shall maintain a written QIP, if required, and have it available for inspection. (40 CFR Part 64 § 64.8(b)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.3.3 The QIP initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:

a. Improved preventative maintenance practices. (40 CFR Part 64 § 64.8(b)(2)(i), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

b. Process operation changes. (40 CFR Part 64 § 64.8(b)(2)(ii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

c. Appropriate improvements to control methods. (40 CFR Part 64 § 64.8(b)(2)(iii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

d. Other steps appropriate to correct control performance. (40 CFR Part 64 § 64.8(b)(2)(iv), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

e. More frequent or improved monitoring (only in conjunction with one or more steps under Conditions 1.18.3.3.a through d above). (40 CFR Part 64 § 64.8(b)(2)(v), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.3.4 If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the Division if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined. (40 CFR Part 64 § 64.8(c), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.3.5 Following implementation of a QIP, upon any subsequent determination pursuant to Condition 1.18.2.3.b, the Division or the U.S. EPA may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have:

a. Failed to address the cause of the control device performance problems (40 CFR Part 64 § 64.8(d)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV); or

b. Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. (40 CFR Part 64 § 64.8(d)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.3.6 Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the federal clean air act. (40 CFR Part 64 § 64.8(e), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.4 Reporting and Recordkeeping Requirements

2.9.4.1 Reporting Requirements: The reports required by Section V, Condition 22.d, shall contain the information specified in Appendix B of the permit and the following information, as applicable:

a. Summary information on the number, duration and cause (including unknown cause, if applicable), for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable) ((40 CFR Part 64 § 64.9(a)(2)(ii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV); and

b. The owner or operator shall submit, if necessary, a description of the actions taken to implement a QIP during the reporting period as specified in Condition 1.18.3 of this permit. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring. (40 CFR Part 64 § 64.9(a)(2)(iii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.4.2 General Recordkeeping Requirements: In addition to the recordkeeping requirements in Section V, Condition 22.a through c.

a. The owner or operator shall maintain records of any written QIP required pursuant to Condition 1.18.3 and any activities undertaken to implement a QIP, and any supporting information required to be maintained under these CAM requirements (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). (40 CFR Part 64 § 64.9(b)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

b. Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. (40 CFR Part 64 § 64.9(b)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.5 Savings Provisions

2.9.5.1 Nothing in these CAM requirements shall excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the federal clean air act. These CAM requirements shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purposes of determining the monitoring to be imposed under separate authority under the federal clean air act, including monitoring in permits issued pursuant to title I of the federal clean air act. The purpose of the CAM requirements is to require, as part of the issuance of this Title V operating permit, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of CAM. (40 CFR Part 64 § 64.10(a)(1),

as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.5.2 Nothing in these CAM requirements shall restrict or abrogate the authority of the U.S. EPA or the Division to impose additional or more stringent monitoring, recordkeeping, testing or reporting requirements on any owner or operator of a source under any provision of the federal clean air act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable. (40 CFR Part 64 § 64.10(a)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

2.9.5.3 Nothing in these CAM requirements shall restrict or abrogate the authority of the U.S. EPA or the Division to take any enforcement action under the federal clean air act for any violation of an applicable requirement or of any person to take action under section 304 of the federal clean air act. (40 CFR Part 64 § 64.10(a)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

3. PW Tanks – Six (6) 1,100 barrel Fixed Roof Storage Vessels used to Store Produced Water (AIRS ID: 003)

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor	Monitoring	
				Method	Interval
VOC	3.1	5.1 tons per year	0.262 lb/bbl	Recordkeeping and Twelve Month Rolling Total Calculation	Monthly
NO_X	3.2	4.3 tons per year	0.068 lb/MMBtu		
CO		19.4 tons per year	0.31 lb/MMBtu		
Produced Water Throughput	3.3	2,316,947 bbl per year		Flow Meter	Monthly
Stack Height	3.4	Minimum of 40 feet		See Condition 3.4	
Flare Opacity	3.5	Less Than or Equal to 30% Opacity		See Condition 3.5	
Compliance Testing	3.6			See Condition 3.6	Semi-Annually
Statewide Controls for Oil & Gas Operations	5	95% VOC control 95% hydrocarbon control 98% design destruction efficiency for hydrocarbons		See Condition 5	

3.1 Emissions of Volatile Organic Compounds (VOC) from the tank battery shall not exceed the limitations listed in the Summary Table above (Construction Permit 16JA1055,). Monthly emissions shall be calculated using the monthly produced water throughput in Condition 3.3, the operating hours of the control devices in Condition 1.3, and emission factor above (PS Memo 09-02) in the following equation:

$$Emissions_{VOC}\left(\frac{tons}{month}\right) = \frac{Produced\ Water\ Throughput\left(\frac{bbl}{month}\right) \times Emission\ Factor\left(\frac{lb}{bbl}\right) \times \Sigma\left(Operating\ Scenario\ Hours\left(\frac{hrs}{month}\right) \times \left(1 - \frac{CE(\%)}{100}\right)\right)}{Unit\ Conversion\left(\frac{2000\ lb}{ton}\right)}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual emission limitation. Each month, a new twelve month total shall be calculated using the previous twelve months' data. Records of calculations shall be kept in a log to be made available to the Division upon request.

3.1.1 Control Efficiencies

3.1.1.1 A control efficiency (CE) of 98.5% shall be applied to the Zeeco EGF-7-40 Enclosed Combustor when it is operational and emissions are routed to it, provided the requirements of Conditions 1.6 and 5.1.2 are met.

3.1.1.2 A control efficiency (CE) of 95% shall apply during periods of enclosed combustor downtime when emissions from the crude oil tanks are routed to the Zeeco UF6-40 Emergency Backup Open Flare.

3.2 Nitrogen Oxides (NO_X), and Carbon Monoxide (CO) emissions from control device associated with the tanks shall not exceed the limitations stated above (Colorado Construction Permit 16JA1055). Compliance with the emission limitations shall be monitored as follows:

NO_X, and CO emissions from the tank battery shall be calculated monthly using the following equation:

$$Emissions_{CO,NOx}\left(\frac{tons}{month}\right) = \frac{Emission\ Factor\left(\frac{lb}{MMBtu}\right) \times \left(Waste\ Gas\ Heat\ Content\left(\frac{Btu}{scf}\right) \times GOR\left(\frac{scf}{bbl}\right) \times Condensate\ Throughput\left(\frac{bbl}{month}\right)\right)}{2000\left(\frac{lbs}{ton}\right) \times 10^6\left(\frac{Btu}{MMBtu}\right)}$$

Monthly emissions shall be calculated by the end of the subsequent month using the above emission factors in the table above, the monthly produced water throughput as specified in Condition 3.3 and the Gas to Oil Ratio (GOR) and Heat Content of the waste gas. A GOR of 36 scf/bbl, and a heat content of 1,496 Btu/scf shall be used to calculate emissions (PS Memo 09-02).

3.3 The quantity of produced water processed through the tank battery shall not exceed the limit listed in the Summary Table above (Construction Permit 16JA1055). The quantity of produced water processed through the tank battery shall be monitored using a flowmeter and recorded monthly and used to calculate emissions as required by Condition 3.1. The monthly quantity of produced water processed shall be used in a twelve month rolling total to monitor compliance with the annual limitation. Each month a new twelve month total shall be calculated using the previous twelve months' data.

3.4 The stack height for this flare shall comply with the limitations stated in the table above. (Colorado Construction Permit 16JA1055)

3.5 Visible emissions from the flare shall not exceed thirty percent (30%) opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes. (Colorado Regulation No. 1, Section II.A.5)

In absence of credible evidence to the contrary, compliance with the opacity limitation shall be presumed as long as Condition 5 is met.

3.6 On a semi-annual basis, a compliance test shall be conducted on the Zeeco EGF-7-40 enclosed combustor to measure the emission rate of Volatile Organic Compounds (VOC) in order to demonstrate the enclosed combustor achieves a minimum destruction efficiency of 98.5% for VOC, and to monitor compliance with the annual emission limits found in Condition 3.1. The operator shall determine the mass emission rates of VOC at the inlet and outlet of the control device to determine the destruction efficiency of the enclosed combustor. The volume of gas routed to the enclosed combustor from these points shall be monitored and recorded during this test. (Colorado Construction Permit 16JA1055

The test protocol, test, and test report must be in accordance with the requirements of the APCD Compliance Test Manual (https://www.colorado.gov/pacific/cdphe/inspections-and-enforcement). A stack testing protocol shall be submitted for Division approval at least thirty (30) calendar days prior to any performance of the test required under this condition. No stack test required herein shall be performed without prior approval of the protocol by the Division. The Division reserves the right to

witness the test. In order to facilitate the Division's ability to make plans to witness the test, notice of the date(s) for the stack test shall be submitted to the Division at least thirty (30) calendar days prior to the test. The Division may for good cause shown, waive this thirty (30) day notice requirement. In instances when a scheduling conflict is presented, the Division shall immediately contact the permittee in order to explore the possibility of making modifications to the stack test schedule. The compliance test results shall be submitted to the Division within forty-five (45) calendar days of the completion of the test unless a longer period is approved by the Division. No compliance test shall be conducted less than one hundred fifty (150) days subsequent to any performance test used to demonstrate compliance with any Periodic Testing Requirements in this permit. (Colorado Construction Permit 16JA1055, as modified under the provisions of Section I, Condition 1.3)

4. Crude Load-out – Truck Loadout of Stored Crude Oil Controlled with a Zeeco EGF-7-40 Enclosed Combustor (AIRS ID: 004)

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor	Monitoring	
				Method	Interval
VOC	4.1	29.6 tons per year	See Condition 4.1	Recordkeeping and Twelve Month Rolling Total Calculation	Monthly
Crude Oil Throughput	4.2	1,082,353 bbl per year		Flow Meter	Monthly
Hour of Operation	4.3			Recordkeeping	Monthly
Loadout Requirements	4.4			See Condition 4.4	

4.1 Volatile Organic Compounds (VOC) shall not exceed the limitation listed in the table above (Colorado Construction Permit 16JA1055). Compliance with the annual emission limitation shall be monitored as follows:

4.1.1 Monthly determination of VOC emissions shall be calculated by the end of the subsequent month using the methodology specified in AP-42, Chapter 5.2, Transportation and Marketing of Petroleum Liquids (07/2008):

4.1.1.1 Loading losses shall be calculated using the bulk liquid temperature of the crude oil, the true vapor pressure of the crude oil to be loaded and the molecular weight of vapor emissions obtained from the process model run, as required by Condition 1.1, as inputs to the equation below:

$$L_L\left(\frac{lb}{10^3 gal}\right) = 12.46 \times \frac{S \times P(psia) \times M\left(\frac{lb}{lbmol}\right)}{T(°R)}$$

Where:
L_L = *Loading Loss, lb/10³gal*
S = *Saturation Factor for Submerged Loading (0.6)*
P = *True Vapor Pressure of Loaded Liquid, psia*
M = *Molecular Weight of Vapors, lb/lbmol*
T = *Temperature of Bulk Liquid, °R*

True vapor pressure will be determined on an annual basis using the applicable sample results from Condition 1.1.6, and Figure 7.1-13a or Figure 7.1-13b of AP-42 Section 7.1 "Organic Liquid Storage Tanks"

4.1.1.2 Monthly emissions of VOC shall be calculated using the loading losses determined from the above calculation, the monthly throughput of crude oil as required by Condition 4.2, and VOC mass fraction as required by Condition 1.1.5 as inputs to

the following equation:

$$Emissions_{VOC}\left(\frac{tons}{month}\right) = \frac{L_L\left(\frac{lb}{10^3 gal}\right) \times F\left(\frac{10^3 gal}{month}\right) \times x_C}{Unit\ Conversion\left(\frac{2000\ lb}{ton}\right)} \times \left(H_C \times \left(1 - \frac{CE}{100}\right) + H_U\right)$$

Where:
L_L = *Loading Loss, lb/10³gal*
F = *Crude oil Throughput, 10³ gal/month*
x_C = *Crude oil VOC Content, mass fraction*
H_C = *Controlled Hours of Operation*
H_U = =*Uncontrolled Hours of Operation*
CE = *Control Efficiency (95%)*

Monthly emissions shall be calculated in a rolling twelve month total to monitor compliance with the annual emission limitation. Each month, a new twelve month total shall be calculated using the previous twelve month's data. Records of calculations shall be kept in a log and made available for Division review upon request.

4.1.2 Annual emissions of Hazardous Air Pollutants (HAP) for the purposes of APEN reporting and the payment of annual fees shall be calculated using HAP emissions derived from the same method as required for VOC emissions.

4.2 Crude oil throughput shall not exceed 1,082,353 barrels per year (Colorado Construction Permit 16JA1055). The crude oil throughput shall be monitored and recorded monthly using a volumetric flow meter. The monthly crude oil throughput shall be used in a twelve month rolling total to monitor compliance with the annual limitations. Each month, a new twelve month total shall be calculated using the previous twelve months data. Records of calculations shall be maintained and made available to the Division upon request.

The monthly crude oil throughput shall be used in the calculation required by Condition 4.1 to monitor compliance with the annual VOC emission limitation.

4.3 Individual hours of operation of the Zeeco EGF-7-40 Enclosed Combustor be monitored and recorded monthly in a log to be made available to the Division upon request. Monthly hours of operation shall be used to monitor compliance with the annual VOC emission limitation, as required by Condition 4.1.

4.4 Crude oil loading to trucks shall be conducted by submerged fill (Colorado Construction Permit 16JA1105). The owner or operator must maintain records that document the design of the system and make these records available for Division review upon request.

4.4.1 All hydrocarbon liquid loading operations are subject to the requirements of Colorado Regulation No. 7, Section XVII.B.1.a (Condition 5.1.1).

4.4.2 The owner or operator shall follow loading procedures that minimize the leakage of VOCs to the atmosphere including but not limited to (Colorado Construction Permit 16JA1055):

4.4.2.1 The owner or operator shall inspect onsite loading equipment to ensure that hoses, couplings, and valves are maintained to prevent dripping, leaking, or other liquid or vapor loss during loading and unloading. The inspections shall occur at least monthly. Each inspection shall be documented in a log available to the Division on request.

4.4.2.2 All compartment hatches at the facility (including thief hatches) shall be closed and latched at all times when loading operations are not active, except for periods of maintenance, gauging, or safety of personnel and equipment.

4.4.2.3 Inspect thief hatch seals annually for integrity and replace as necessary. Thief hatch covers shall be weighted and properly seated.

4.4.2.4 Inspect pressure relief devices (PRD) annually for proper operation and replace as necessary. PRDs shall be set to release at a pressure that will ensure flashing, working and breathing losses are not vented through the PRD under normal operating conditions.

4.4.2.5 Document annual inspections of thief hatch seals and PRD with an indication of status, a description of any problems found, and their resolution.

4.4.3 When this emission source is being controlled, the owner or operator shall follow loading procedures that minimize the leakage of VOCs to the atmosphere including, but not limited to (Colorado Construction Permit 16JA1055):

4.4.3.1 Install and operate the vapor collection and return equipment to collect vapors during loading of tank compartments of outbound transport trucks.

4.4.3.2 Include devices to prevent the release of vapor from vapor recovery hoses not in use.

4.4.3.3 When this emission source is being controlled, use operating procedures to ensure that hydrocarbon liquid cannot be transferred unless the vapor collection equipment is in use.

4.4.3.4 Operate all recovery and disposal equipment at a back-pressure less than the pressure relief valve setting of transport vehicles.

5. Colorado Regulation No. 7, Section XVII Requirements: (State-only Enforceable)

Conditions shown in italic text below represent monitoring, recordkeeping and recording provisions that are not included in Colorado Regulation No. 7 as of the issuance date of this permit, but are being included as per Colorado Regulation No 3, Part C, Section V.C.5.b.

5.1 General Provisions

5.1.1 All intermediate hydrocarbon liquids collection, storage, processing, and handling operations, regardless of size, shall be designed, operated, and maintained so as to minimize leakage of VOCs and other hydrocarbons to the atmosphere to the extent reasonably practicable. (Colorado Regulation No. 7, Section XVII.B.1.a)

5.1.2 At all times, including periods of start-up and shutdown, the facility and air pollution control equipment must be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether or not acceptable operation and maintenance procedures are being used will be based on information available to the Division, which may include, but is not limited to, monitoring results, opacity observations, review of operation and maintenance procedures, and inspection of the source (Colorado Regulation No. 7, Section XVII.B.1.b)

5.2 General Requirements for air pollution control equipment used to comply with Section XVII

5.2.1 All air pollution control equipment shall be operated and maintained pursuant to the manufacturing specifications or equivalent to the extent practicable, and consistent with technological limitations and good engineering and maintenance practices. The owner or operator shall keep manufacturer specifications or equivalent on file. In addition, all such air pollution control equipment shall be adequately designed and sized to achieve the control efficiency rates and to handle reasonably foreseeable fluctuations in emissions of VOCs and other hydrocarbons during normal operations. Fluctuations in emissions that occur when the separator dumps into the tank are reasonably foreseeable. (Colorado Regulation No. 7, section XVII.B.2.a)

5.2.2 Alternative emissions control equipment will qualify as air pollution control equipment, and may be used in lieu of, or in combination with, combustion devices and vapor recovery units to achieve the emission reductions required by this Section XVII., if the Division approves the equipment, device or process. As part of the approval process the Division, at its discretion, may specify a different control efficiency than the control efficiencies required by this Section XVII. (Colorado Regulation No. 7, section XVII.B.2.e)

Note: SandRidge Exploration and Production, LLC submitted an Alternative Emissions Control Equipment Request Form for the Zeeco UF6-40 Emergency Backup Open Flare on November 29, 2016. The Division approved the flare as an alternative emissions control equipment on June 19, 2017.

5.3 Colorado Regulation No. 7, Section XVII.B Requirements: **(State-only Enforceable)**

5.3.1 *This flare shall meet the general requirements of Conditions 5.1.2 and 5.2.1.*

5.3.2 If a combustion device is used to control emissions of VOCs and other hydrocarbons, it shall be enclosed, have no visible emissions during normal operation, and be designed so that an observer can, by means of visual observation from the outside of the enclosed combustion device, or by other means approved by the Division, determine whether it is operating properly. (Colorado Regulation No. 7, Section XVII.B.2.b)

In the absence of credible evidence to the contrary, compliance with the no visible emissions requirement is presumed provided the monitoring in Condition 5.4.5.2 indicates no visible emissions.

5.3.3 Auto-igniters: All combustion devices used to control emissions of hydrocarbons must be equipped with and operate an auto-igniter as follows (Colorado Regulation No. 7, Section XVII.B.2.d):

5.3.3.1 All combustion devices installed on or after May 1, 2014, must be equipped with an operational auto-igniter upon installation of the combustion device. (Colorado Regulation No. 7, Section XVII.B.2.d.(i))

5.3.3.2 All combustion devices installed before May 1, 2014, must be equipped with an operational auto-igniter by or before May 1, 2016, or after the next combustion device planned shutdown, whichever comes first. (Colorado Regulation No. 7, Section XVII.B.2.d.(ii))

5.3.4 Requirements for compressor seals and open-ended valves or lines

5.3.5 Beginning January 1, 2015, each open-ended valve or line at well production facilities and natural gas compressor stations must be equipped with a cap, blind flange, plug, or a second valve that seals the open end at all times except during operations requiring process fluid flow through the open-ended valve or line. Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirement to seal the open end of the valve or line. Alternatively, an open-ended valve or line may be treated as if it is a "component" as defined in Section XVII.A.5., and may be monitored under the provisions of Section XVII.F. (Colorado Regulation No. 7, Section XVII.B.3.a)

The owner or operator of affected operations shall maintain records documenting the location of each open-ended valve or line and whether each is: (1) capped, blind-flanged, plugged or equipped with a second valve, (2) exempt due to location in an emergency shutdown system, or (3) treated as a "component" and subject to the Leak Detection and Repair Program requirements. These records shall be updated on an annual basis. Such records shall be maintained and made available for Division review.

Such records shall be maintained and made available to the Division for review.

5.4 Colorado Regulation No. 7, Section XVII.C Requirements: **(State-only Enforceable)**

Control Requirements:

5.4.1 Owners or operators of storage tanks with uncontrolled actual emissions of VOCs equal to or greater than six (6) tons per year based on a rolling twelve-month total must operate air pollution control equipment that achieves an average hydrocarbon control efficiency of 95%. (Colorado Regulation No. 7, Section XVII.C.1.b)

In the absence of credible evidence to the contrary, compliance with the 95% average hydrocarbon control efficiency requirement shall be presumed as long as the semi-annual compliance testing required by Condition 3.6 indicates a control efficiency of at least 98%.

If a combustion device is used [to meet the requirements of this Condition 5.4.1], it must have a design destruction efficiency of at least 98% for hydrocarbons except where the combustion device has been authorized by permit prior to May 1, 2014. (Colorado Regulation No. 7, Section XVII.C.1.b)

In the absence of credible evidence to the contrary, compliance with the 98% average hydrocarbon design destruction efficiency requirement shall be presumed as long as the semi-annual compliance testing required by Condition 3.6 indicates a control efficiency of at least 98%.

5.4.2 Control requirements of Section XVII.C.1.b [Condition 5.4.1] must be achieved in accordance with the following schedule:

5.4.2.1 A storage tank constructed on or after May 1, 2014, must be in compliance within ninety (90) days of the date that the storage tank commences operation (Colorado Regulation No. 7, Section XVII.C.1.b.(i)(a))

5.4.2.2 A storage tank not otherwise subject to Sections XVII.C.1.b.(i)(a) [Condition 5.4.2.1] that increases uncontrolled actual emissions to six (6) tons per year VOC or more on a rolling twelve month basis after May 1, 2014, must be in compliance within sixty (60) days of discovery of the emissions increase (Colorado Regulation No. 7, Section XVII.C.1.b.(i)(c)).

5.4.3 These tank(s) are subject to the general requirements of Condition 5.1. The flare associated with these tanks is subject to the requirements of Condition 5.

Visual Inspection Requirements:

5.4.4 Beginning May 1, 2014, or the applicable compliance date in Section XVII.C.1.b.(i) [Condition 5.4.2], whichever comes later, owners or operators of storage tanks subject to Section XVII.C.1 must conduct audio, visual, olfactory ("AVO") and additional visual inspections of the storage tank and any associated equipment (e.g. separator, air pollution control equipment, or other pressure reducing equipment) at the same frequency as liquids are loaded out from the storage tank. These inspections are not required more frequently than every seven (7) days but must be conducted at least every thirty one (31) days. Monitoring is not required for storage tanks or associated equipment that are unsafe, difficult, or

inaccessible to monitor, as defined in Section XVII.C.1.e [Condition 5.4.6]. The additional visual inspections must include, at a minimum (Colorado Regulation No. 7, Section XVII.C.1.d):

5.4.4.1 Visual inspection of any thief hatch, pressure relief valve, or other access point to ensure that they are closed and properly sealed (Colorado Regulation No. 7, Section XVII.C.1.d.(i));

5.4.4.2 *The visual inspection requirements for the enclosed combustor and open flare are included in Condition 5.4.5.*

5.4.5 *The owner or operator shall complete the following visual inspections. The frequency of these inspections shall be daily. The result(s) of the visual inspections shall be kept on file and made available for Division review upon request.*

5.4.5.1 **AIRS Points 001, 002, and 003 Only** – If storage tanks or associated equipment [e.g., air pollution control equipment] is unsafe, difficult or inaccessible to monitor, the owner or operator is not required to monitor such equipment until it becomes feasible to do so (Colorado Regulation No. 7, Section XVII.C.1.e).

5.4.5.2 [The owner or operator shall complete an] inspection of the device for the presence or absence of smoke. If smoke is observed, either the equipment must be immediately shut-in to investigate the potential cause for smoke and perform repairs, as necessary, or EPA Method 22 must be conducted to determine whether visible emissions are present for a period of at least one (1) minute in fifteen (15) minutes. (Colorado Regulation No. 7, Section XVII.C.1.d.(v))

5.4.5.3 **AIRS Points 001 and 003** – [The owner or operator shall complete a] visual inspection of the auto-igniter and valves for the piping of gas to the pilot light to ensure they are functioning properly. (Colorado Regulation No. 7, Section XVII.C.1.d.(iii))

5.4.5.4 **AIRS Points 002 and 004** – The owner or operator shall complete a visual inspection of the auto-igniter and valves for the piping of gas to the pilot light to ensure they are functioning properly.

5.4.5.5 **AIRS Points 001 and 003** – [The owner or operator shall complete a] visual inspection or monitoring of the air pollution control equipment to ensure that it is operating, including that the pilot light is lit on combustion devices used as air pollution control equipment. (Colorado Regulation No. 7, Section XVII.C.1.d.(ii))

5.4.5.6 **AIRS Points 002 and 004** – The owner or operator shall complete a visual inspection or monitoring of the air pollution control equipment to ensure that it is operating, including that the pilot light is lit on combustion devices used as air pollution control equipment.

5.4.5.7 **AIRS Points 001 and 003** – [The owner or operator shall complete a] visual inspection of the air pollution control equipment to ensure that the valves for the piping from the storage tank(s) to the air pollution control equipment are open.

(Colorado Regulation No. 7, Section XVII.C.1.d.(iv))

5.4.6 If storage tanks or associated equipment is unsafe, difficult, or inaccessible to monitor, the owner or operator is not required to monitor such equipment until it becomes feasible to do so (Colorado Regulation No. 7, Section XVII.C.1.e).

Capture Requirements:

5.4.7 Capture requirements for storage tanks that are fitted with air pollution control equipment as required by Section XVII.C.1. [Condition and 5.4.1]:

Owners or operators of storage tanks must route all hydrocarbon emissions to air pollution control equipment, and must operate without venting hydrocarbon emissions from the thief hatch (or other access point to the tank) or pressure relief device during normal operation, unless venting is reasonably required for maintenance, gauging, or safety of personnel and equipment. Compliance must be achieved in accordance with the schedule in Section XVII.C.2.b.(ii) [Condition 5.4.8.2]. (Colorado Regulation No. 7 Section XVII.C.2.a).

In the absence of credible evidence to the contrary, compliance with the requirements of this Condition shall be presumed as long as the recordkeeping requirements of Conditions 5.4.9.2 and 5.4.9.5 indicate that hydrocarbon emissions venting did not occur during normal operation unless venting is reasonably required for maintenance, gauging, or safety of personnel and equipment.

Storage Tank Emission Management System ("STEM") Plan Requirements:

5.4.8 Owners or operators of storage tanks subject to the control requirements of Sections XVII.C.1.b. [Condition 5.4.1] must develop, certify, and implement a documented Storage Tank Emission Management System ("STEM") plan to identify, evaluate, and employ appropriate control technologies, monitoring practices, operational practices, and/or other strategies designed to meet the requirements set forth in Section XVII.C.2.a. [Condition 5.4.7]. Owners or operators must update the STEM plan as necessary to achieve or maintain compliance. Owners or operators are not required to develop and implement STEM for storage tanks containing only stabilized liquids. The minimum elements of STEM are listed below (Colorado Regulation No. 7, Section XVII.C.2.b):

5.4.8.1 STEM must include selected control technologies, monitoring practices, operational practices, and/or other strategies; procedures for evaluating ongoing storage tank emission capture performance; and monitoring in accordance with approved instrument monitoring methods* [AIMM] following the applicable schedule in Section XVII.C.2.b.(ii) [Condition 5.4.8.2] and Inspection Frequency in Table 1 [see 5.4.8.2c below] (Colorado Regulation No. 7, Section XVII.C.2.b.(i))

**For the purposes of this condition, approved instrument monitoring method means an infra-red camera, or EPA Method 21.*

All monitoring specified in the STEM plan, including monitoring associated with ongoing storage tank emission capture performance, shall comply with the recordkeeping requirements of Condition 5.4.9.

5.4.8.2 Owners or operators must achieve the requirements of Sections XVII.C.2.a. [Condition 5.4.7] and XVII.C.2.b. [Condition 5.4.8] and begin implementing the required approved instrument monitoring method in accordance with the following schedule (Colorado Regulation No. 7, Section XVII.C.2.b.(ii)):

Initial Compliance Dates for Capture Requirements, STEM Plan Requirements, and AIMM Inspections

a. A storage tank constructed on or after May 1, 2014, must comply with the requirements of Section XVII.C.2.a. [Condition 5.4.7] by the date the storage tank commences operation. The storage tank must comply with Section XVII.C.2.b. [Condition 5.4.8] and implement the approved instrument monitoring method inspections [required to be included in the STEM plan as per Section XVII.C.2.b.(ii), Condition 5.4.8.1] within ninety (90) days of the date that the storage tank commences operation. (Section XVII.C.2.b.(ii)(a))

b. A storage tank not otherwise subject to Sections XVII.C.2.b.(ii)(a) [a above] that increases uncontrolled actual emissions to six (6) tons per year VOC or more on a rolling twelve month basis after May 1, 2014, must comply with the requirements of Sections XVII.C.2.a. [Condition 5.4.7] and XVII.C.2.b. [Condition 5.4.8] and implement the required approved instrument monitoring method inspections within sixty (60) days of discovery of the emissions increase. (Section XVII.C.2.b.(ii)(c))

AIMM Inspection Frequency

c. Following the first approved instrument monitoring method inspection, owners or operators must continue conducting approved instrument monitoring method inspections in accordance with the Inspection Frequency in the table below. (Section XVII.C.2.b.(ii)(d))

Storage Tank Inspections

Threshold: Storage Tank Uncontrolled Actual VOC Emissions (tpy)	Approved Instrument Monitoring Method Inspection Frequency	Phase in Schedule
≥ 6 and ≤ 12	Annually	January 1, 2016
> 12 and ≤ 50	Quarterly	July 1, 2015
>50	Monthly	January 1, 2015

For the purposes of this condition c above, uncontrolled actual emissions shall be evaluated on a rolling twelve month basis. When rolling twelve month actual

uncontrolled emissions increase such that a storage tank becomes subject to a higher inspection frequency, the owner or operator shall conduct the next inspection within 30 days of the discovery of the emission increase, or at the time that next inspection was scheduled as per the previous inspection frequency, whichever occurs first.

5.4.8.3 Owners or operators are not required to monitor storage tanks and associated equipment that are unsafe, difficult, or inaccessible to monitor, as defined in Section XVII.C.1.e. (Colorado Regulation No. 7, Section XVII.C.2.b.(iii))

Other STEM Requirements

5.4.8.4 STEM must include a certification by the owner or operator that the selected STEM strategy(ies) are designed to minimize emissions from storage tanks and associated equipment at the facility(ies), including thief hatches and pressure relief devices. (Colorado Regulation No. 7, Section XVII.C.2.b.(iv))

5.4.8.5 *The owner or operator shall review the STEM plan annually and complete updates as necessary. Records of the review shall be maintained and made available to the Division upon request.*

Recordkeeping

5.4.9 The owner or operator of each storage tank subject to Sections XII.D or XVII.C must maintain records of STEM, if applicable, including the plan, any updates, and the certification, and make them available to the Division upon request. In addition, the owner or operator must maintain records of any required monitoring and make them available to the Division upon request, including (Colorado Regulation No. 7, Section XVII.C.3):

5.4.9.1 The AIRS ID for the storage tank. (Section XVII.C.3.a)

5.4.9.2 The date and duration of any period where the thief hatch, pressure relief device, or other access point are found to be venting hydrocarbon emissions, except for venting that is reasonably required for maintenance, gauging, or safety of personnel and equipment. (Section XVII.C.3.b)

5.4.9.3 The date and duration of any period where the air pollution control equipment is not operating. (Section XVII.C.3.c)

5.4.9.4 Where a combustion device is being used, the date and result of any EPA Method 22 test or investigation pursuant to Section XVII.C.1.d.(v) [Condition 5.4.5]. (Section XVII.C.3.d)

5.4.9.5 The timing of and efforts made to eliminate venting, restore operation of air pollution control equipment, and mitigate visible emissions. (Section XVII.C.3.e)

5.4.10 A list of equipment associated with the storage tank that is designated as unsafe, difficult, or inaccessible to monitor, as described in Section XVII.C.1.e. [Condition 5.4.6], an explanation stating why the equipment is so designated, and the plan for monitoring such equipment. (Section XVII.C.3.f)

5.5 Leak Detection and repair program for natural gas compressor stations (Colorado Regulation No. 7, Section XVII.F) State-only enforceable.

5.5.1 The following provisions of Section XVII.F [Condition 5.5] shall apply in lieu of any directed inspection and maintenance program requirements established pursuant to Regulation Number 3, Part B, Section III.D.2. (Colorado Regulation No. 7, Section XVII.F.1)

5.5.2 Owners or operators of well production facilities that monitor components as part of Section XVII.F. may estimate uncontrolled actual emissions from components for the purpose of evaluating the applicability of component fugitive emissions to Regulation Number 3 by utilizing the emission factors defined as less than 10,000 ppmv of Table 2-8 of the 1995 EPA Protocol for Equipment Leak Emission Estimates (Document EPA-453/R-95-017). (Colorado Regulation No. 7, Section XVII.F.2)

5.5.3 Requirements for well production facilities (Colorado Regulation No. 7, Section XVII.F.4)

5.5.3.1 Owners or operators of well production facilities constructed on or after October 15, 2014, must identify leaks from components using an approved instrument monitoring method no sooner than fifteen (15) days and no later than thirty (30) days after the facility commences operation. This initial test constitutes the first, or only for facilities subject to a one time approved instrument monitoring method inspection, of the periodic approved instrument monitoring method inspections. Thereafter, approved instrument monitoring method and AVO inspections must be conducted in accordance with the Inspection Frequencies in Table 4. (Colorado Regulation No. 7, Section XVII.F.4.a)

**For the purposes of this condition, approved instrument monitoring method means an infra-red camera, or EPA Method 21.*

Table 4 – Well Production Facility Component Inspections				
Thresholds (per XVII.F.4.c)				
Well production facilities without storage tanks	Well production facilities with storage tanks	Approved Instrument Monitoring Method Inspection Frequency	AVO Inspection Frequency	Phase-In Schedule
> 0 and ≤ 6	> 0 and ≤ 6	One time	Monthly	January 1, 2016
> 6 and ≤ 12	> 6 and ≤ 12	Annually	Monthly	January 1, 2016
> 12 and ≤ 20	> 12 and ≤ 50	Quarterly	Monthly	January 1, 2015
> 20	> 50	Monthly		January 1, 2015

5.5.4 If a component is unsafe, difficult, or inaccessible to monitor, the owner or operator is not required to monitor the component until it becomes feasible to do so. (Colorado Regulation No. 7, Section XVII.F.5)

5.5.4.1 Difficult to monitor components are those that cannot be monitored without elevating the monitoring personnel more than two (2) meters above a supported surface or are unable to be reached via a wheeled scissor-lift or hydraulic type scaffold that allows access to components up to 7.6 meters (25 feet) above the ground. (Section XVII.F.5.a)

5.5.4.2 Unsafe to monitor components are those that cannot be monitored without exposing monitoring personnel to an immediate danger as a consequence of completing the monitoring. (Section XVII.F.5.b)

5.5.4.3 Inaccessible to monitor components are those that are buried, insulated, or obstructed by equipment or piping that prevents access to the components by monitoring personnel. (Section XVII.F.5.c)

5.5.5 Leaks requiring repair: leaks must be identified utilizing the methods listed in Section XVII.F.6. Only leaks detected pursuant to Section XVII.F.6 require repair under Section XVII.F.7 [Condition 5.5.6]. (Colorado Regulation No. 7 Section XVII.F.6)

5.5.5.1 For EPA Method 21 monitoring at facilities constructed on or after May 1, 2014, a leak is any concentration of hydrocarbon above 500 ppm not associated with normal equipment operation, such as pneumatic device actuation and crank case ventilation. (Colorado Regulation No. 7 Section XVII.F.6.b)

5.5.5.2 For infra-red camera monitoring, a leak is any detectable emissions not associated with normal equipment operation, such as pneumatic device actuation and crank case ventilation. (Colorado Regulation No. 7 Section XVII.F.6.c)

5.5.5.3 For leaks identified using an approved instrument monitoring method, owners or operators have the option of either repairing the leak in accordance with the repair schedule set forth in Section XVII.F.7 [Condition 5.5.6] or conducting follow-up monitoring using EPA Method 21 within five (5) working days of the leak detection. If the follow-up EPA Method 21 monitoring shows that the emission is a leak as defined in Section XVII.F.6 [this condition 5.5.5], the leak must be repaired and remonitored in accordance with Section XVII.F.7 [Condition 5.5.6]. (Colorado Regulation No. 7 Section XVII.F.6.e, except for requirements that apply only to well production facilities)

5.5.6 Repair and remonitoring (Colorado Regulation No. 7, Section XVII.F.7):

5.5.6.1 First attempt to repair a leak must be made no later than five (5) working days after discovery, unless parts are unavailable, the equipment requires shutdown to complete repair, or other good cause exists. If parts are unavailable, they must be ordered promptly and the repair must be made within fifteen (15) working days of receipt of the parts. If shutdown is required, the leak must be repaired during the

next scheduled shutdown. If delay is attributable to other good cause, repairs must be completed within fifteen (15) working days after the cause of delay ceases to exist. (Colorado Regulation No. 7 Section XVII.F.7.a)

5.5.6.2 Within fifteen (15) working days of completion of a repair, the leak must be remonitored to verify the repair was effective. (Colorado Regulation No. 7 Section XVII.F.7.b)

5.5.6.3 Leaks discovered pursuant to the leak detection methods of Section XVII.F.6 [condition 5.5.5] shall not be subject to enforcement by the Division unless the owner or operator fails to perform the required repairs in accordance with Section XVII.F.7 [this Condition 5.5.6]. (Colorado Regulation No. 7 Section XVII.F.7.c)

5.5.7 Recordkeeping: The owner or operator of each facility subject to the leak detection and repair requirements in Section XVII.F [Condition 5.5] must maintain the following records and make them available to the Division upon request (Colorado Regulation No. 7, Section XVII.F.8). *Note that in accordance with the requirements in Section IV, Conditions 22.b and c, records shall be kept for a period of five years.*

5.5.7.1 The date and site information for each inspection (Section XVII.F.8.b);

5.5.7.2 A list of the leaking components and the monitoring method(s) used to determine the presence of the leak (Section XVII.F.8.c);

5.5.7.3 The date of first attempt to repair the leak and, if necessary, any additional attempt to repair the leak (Section XVII.F.8.d);

5.5.7.4 The date the leak was repaired (Section XVII.F.8.e);

5.5.7.5 The delayed repair list, including the basis for placing leaks on the list (Section XVII.F.8.f);

5.5.7.6 The date the leak was remonitored to verify the effectiveness of the repair, and the results of the remonitoring (Section XVII.F.8.g); and

5.5.7.7 A list of components that are designated as unsafe, difficult, or inaccessible to monitor, as described in Section XVII.F.5. [Condition 5.5.4], an explanation stating why the component is so designated, and the plan for monitoring such component(s). (Section XVII.F.8.h)

5.5.8 *The owner or operator shall maintain records that document the categories of equipment operation that may result in emissions but are not considered to be leaks under Colorado Regulation No. 7 Section XVII.F.6 [Condition 5.5.5] because they qualify as "normal equipment operation". This requirement shall not apply to pneumatic device actuation and crankcase ventilation, which are already explicitly defined in the rule as normal equipment operation. The records shall include a description of each category or type of "normal equipment operation" and a description of the component or equipment type associated with that category.*

5.5.9 Reporting: The owner or operator of each facility subject to the leak detection and repair requirements in Section XVII.F [Condition 5.5] must submit a single annual report on or before May 31st of each year that includes, at a minimum, the following information at their subject facilities conducted the previous calendar year (Colorado Regulation No. 7, Section XVII.F.9):

5.5.9.1 The number of facilities inspected (Section XVII.F.9.a);

5.5.9.2 The total number of inspections (Section XVII.F.9.b);

5.5.9.3 The total number of leaks identified, broken out by component type (Section XVII.F.9.c);

5.5.9.4 The total number of leaks repaired (Section XVII.F.9.d);

5.5.9.5 The number of leaks on the delayed repair list as of December 31st (Section XVII.F.9.e); and

5.5.9.6 Each report shall be accompanied by a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. (Section XVII.F.9.f)

5.5.10 *This facility is subject to the general requirements of Condition 5.1.2.*

5.6 Colorado Regulation No. 7, Section XVII.G Requirements: **(State-only Enforceable)**

5.6.1 Well Operation and Maintenance: On or after August 1, 2014, gas coming off a separator, produced during normal operation from any newly constructed, hydraulically fractured, or recompleted oil and gas well, must either be routed to a gas gathering line or controlled from the date of first production by air pollution control equipment that achieves an average hydrocarbon control efficiency of 95%. If a combustion device is used, it must have a design destruction efficiency of at least 98% for hydrocarbons. (Colorado Regulation No. 7, Section XVII.G)

In the absence of credible evidence to the contrary, compliance with the 95% average hydrocarbon design destruction efficiency requirement shall be presumed as long as the semi-annual compliance testing required by Condition 2.8 indicates a control efficiency of at least 95%.

In the absence of credible evidence to the contrary, compliance with the 98% average hydrocarbon design destruction efficiency requirement shall be presumed as long as the records maintained in accordance with Condition 5.6.2 indicate compliance

5.6.2 *The owner or operator shall maintain records that document the hydrocarbon design destruction efficiency. Such records shall be maintained and made available to the Division for review.*

6. **Natural Gas-Actuated Pneumatic Controllers Associated with Oil and Gas Operations (Colorado Regulation No. 7, Section XVIII) - State-only enforceable.**

This condition applies to pneumatic controllers that are actuated by natural gas and are located at, or upstream of natural gas processing plants (upstream activities include: oil and gas exploration and production operations and natural gas compressor stations). (Colorado Regulation No. 7, Section XVIII.A)

Conditions shown in italic text below represent monitoring, recordkeeping and recording provisions that are not included in Colorado Regulation No. 7 as of the issuance date of this permit, but are being included as per Colorado Regulation No 3, Part C, Section V.C.5.b.

6.1 Emission Reduction Requirements

6.1.1 All pneumatic controllers placed in service on or after May 1, 2014, must (Colorado Regulation No. 7, Section XVIII.C.2.a):

6.1.1.1 Emit VOCs in an amount equal to or less than a low-bleed pneumatic controller, unless allowed pursuant to Section XVIII.C.2.c [Condition 6.1.1.2] (Colorado Regulation No. 7, Section XVIII.C.2.a.(i)); or

6.1.1.2 Utilize no-bleed pneumatic controllers where on-site electrical grid power is being used and use of a no-bleed pneumatic controller is technically and economically feasible. (Colorado Regulation No. 7, Section XVIII.C.2.a.(ii))

6.1.1.3 For high-bleed pneumatic controllers placed in service on or after May 1, 2014, the owner/operator shall submit justification for high-bleed pneumatic controllers to be installed due to safety and/or process purposes prior to installation. The Division shall be deemed to have approved the justification if it does not object to the owner/operator within 30-days upon receipt. (Colorado Regulation No. 7, Section XVIII.C.2.c.(ii))

6.2 Monitoring & Maintenance Requirements

6.2.1 The following requirements apply only to high-bleed pneumatic controllers identified in Section XVIII.C.2.c [Condition 6.1.1.2]:

6.2.1.1 Effective May 1, 2015, each high-bleed pneumatic controller shall be physically tagged by the owner/operator identifying it with a unique high-bleed pneumatic controller number that is assigned and maintained by the owner/operator (Colorado Regulation No. 7, Section XVIII.D.2.a)

6.2.1.2 Effective May 1, 2015, each high-bleed pneumatic controller shall be inspected on a monthly basis, undergo necessary enhanced maintenance as defined in Colorado Regulation No. 7, Section XVIII.B.2 , and be maintained according to manufacturer specifications to ensure that the controller's VOC emissions are minimized (Colorado Regulation No. 7, Section XVIII.D.2.b)

6.3 Recordkeeping

6.3.1 The following requirements apply only to high-bleed pneumatic controllers identified in Section and XVIII.C.2.c [Conditions 6.1.1.2]: (Colorado Regulation No. 7, Section XVIII.E):

6.3.1.1 The owner or operator of affected operations shall maintain a log of the total number of high-bleed pneumatic controllers and their associated controller numbers per facility, the total number of high-bleed pneumatic controllers per company and the associated justification that the high-bleed pneumatic controllers must be used pursuant to Section and XVIII.C.2.c [Conditions 6.1.1.2]. The log shall be updated on a monthly basis. (Colorado Regulation No. 7, Section XVIII.E.1)

6.3.1.2 The owner or operator shall maintain a log of enhanced maintenance [as defined in Colorado Regulation No. 7, Section XVIII.B.2] which shall include, at a minimum, inspection dates, the date of the maintenance activity, high-bleed pneumatic controller number, description of the maintenance performed, results and date of any corrective action taken, and the printed name and signature of the individual performing the maintenance. The log shall be updated on a monthly basis. (Colorado Regulation No. 7, Section XVIII.E.2)

6.4 General Provisions

This equipment is subject to the General Provisions of Condition 5.1.2.

7. Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015 (40 CFR Part 60 Subpart OOOOa) and General Provisions (40 CFR Part 60 Subpart A)

7.1 Upon startup, the Bighorn Pad will be subject to the requirements in 40 CFR 60, Subpart OOOOa, "Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015," including, but not limited to, the following:

The requirements below reflect the current rule language as of the revisions to 40 CFR 60 Subpart OOOOa published in the Federal Register on 6/3/2016. However, if revisions to this Subpart are published at a later date, the owner or operator is subject to the requirements contained in the revised version of 40 CFR 60, Subpart OOOOa.

These requirements have not been adopted into Colorado Regulation No. 6, Part A as of the date of this revised permit issuance (Date), and are therefore not state-enforceable. In the event that these requirements are adopted into Colorado Regulations, they will become state-enforceable.

§60.5370a When must I comply with this subpart?

7.1.1 You must be in compliance with the standards of this subpart no later than August 2, 2016 or upon startup, whichever is later. (§60.5370a(a))

7.1.2 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. The provisions for exemption from compliance during periods of startup, shutdown and malfunctions provided for in 40 CFR 60.8(c) do not apply to this subpart. (§60.5370a(b))

§60.5375a What GHG and VOC standards apply to well affected facilities?

If you own or operate a well affected facility as described in §60.5365a(a) that does not meet the criteria for a well affected facility in §60.5365(a) of subpart OOOO of this part, you must reduce GHG and VOC emissions by complying with §60.5375a(f)(3), (f)(4) or (g) for each well completion operation with hydraulic fracturing prior to November 30, 2016, and you must comply with §60.5375a(a) through (g) for each well completion operation with hydraulic fracturing on or after November 30, 2016.

7.1.3 Except as provided in §60.5375a(f) and (g), for each well completion operation with hydraulic fracturing you must comply with the requirements in §60.5375a(a)(1) through (4). You must maintain a log as specified in §60.5375a(b). (§60.5375a(a))

7.1.3.1 For each stage of the well completion operation, as defined in §60.5430a, follow

the requirements specified in §60.5375a(a)(1)(i) through (iii). (§60.5375a(a)(1))

a. During the initial flowback stage, route the flowback into one or more well completion vessels or storage vessels and commence operation of a separator unless it is technically infeasible for a separator to function. Any gas present in the initial flowback stage is not subject to control under this section. (§60.5375a(a)(1)(i))

b. During the separation flowback stage, route all recovered liquids from the separator to one or more well completion vessels or storage vessels, re-inject the recovered liquids into the well or another well, or route the recovered liquids to a collection system. Route the recovered gas from the separator into a gas flow line or collection system, re-inject the recovered gas into the well or another well, use the recovered gas as an onsite fuel source, or use the recovered gas for another useful purpose that a purchased fuel or raw material would serve. If it is technically infeasible to route the recovered gas as required above, follow the requirements in §60.5375a(a)(3) [Condition 7.1.3.2]. If, at any time during the separation flowback stage, it is technically infeasible for a separator to function, you must comply with §60.5375a(a)(1)(i) [Condition a above]. (§60.5375a(a)(1)(ii))

c. You must have a separator onsite during the entirety of the flowback period, except as provided in §60.5375a(a)(1)(iii)(A) through (C). (§60.5375a(a)(1)(iii))

   (i) A well that is not hydraulically fractured or refractured with liquids, or that does not generate condensate, intermediate hydrocarbon liquids, or produced water such that there is no liquid collection system at the well site is not required to have a separator onsite. (§60.5375a(a)(1)(iii)(A))

   (ii) If conditions allow for liquid collection, then the operator must immediately stop the well completion operation, install a separator, and restart the well completion operation in accordance with §60.5375a(a)(1). (§60.5375a(a)(1)(iii)(B))

   (iii) The owner or operator of a well that meets the criteria of §60.5375a(a)(1)(iii)(A) or (B) must submit the report in §60.5420a(b)(2) and maintain the records in §60.5420a(c)(1)(iii). (§60.5375a(a)(1)(iii)(C))

7.1.3.2 If it is technically infeasible to route the recovered gas as required in §60.5375a(a)(1)(ii) [Condition 7.1.3.1b], then you must capture and direct recovered gas to a completion combustion device, except in conditions that may result in a fire hazard or explosion, or where high heat emissions from a completion combustion device may negatively impact tundra, permafrost or waterways. Completion combustion devices must be equipped with a reliable continuous pilot flame. (§60.5375a(a)(3))

7.1.3.3 You have a general duty to safely maximize resource recovery and minimize releases to the atmosphere during flowback and subsequent recovery.

(§60.5375a(a)(4))

7.1.4 You must maintain a log for each well completion operation at each well affected facility. The log must be completed on a daily basis for the duration of the well completion operation and must contain the records specified in §60.5420a(c)(1)(iii). (§60.5375a(b))

7.1.5 You must demonstrate initial compliance with the standards that apply to well affected facilities as required by §60.5410a(a). (§60.5375a(c))

7.1.6 You must demonstrate continuous compliance with the standards that apply to well affected facilities as required by §60.5415a(a) [Condition 7.1.56]. (§60.5375a(d))

7.1.7 You must perform the required notification, recordkeeping and reporting as required by §60.5420a(a)(2), (b)(1) and (2), and (c)(1). (§60.5375a(e))

7.1.8 For each well affected facility specified in §60.5375a(f)(1) and (2), you must comply with the requirements of §60.5375a(f)(3) and (4). (§60.5375a(f))

7.1.8.1 Each well completion operation with hydraulic fracturing at a wildcat or delineation well. (§60.5375a(f)(1))

7.1.8.2 Each well completion operation with hydraulic fracturing at a non-wildcat low pressure well or non-delineation low pressure well. (§60.5375a(f)(2))

7.1.8.3 You must comply with either §60.5375a(f)(3)(i) or (f)(3)(ii), unless you meet the requirements in §60.5375a(g) [Condition 7.1.9]. You must also comply with §60.5375a(b) [Condition 7.1.4]. (§60.5375a(f)(3))

a. Route all flowback to a completion combustion device, except in conditions that may result in a fire hazard or explosion, or where high heat emissions from a completion combustion device may negatively impact tundra, permafrost or waterways. Completion combustion devices must be equipped with a reliable continuous pilot flame. (§60.5375a(f)(3)(i))

b. Route all flowback into one or more well completion vessels and commence operation of a separator unless it is technically infeasible for a separator to function. Any gas present in the flowback before the separator can function is not subject to control under this section. Capture and direct recovered gas to a completion combustion device, except in conditions that may result in a fire hazard or explosion, or where high heat emissions from a completion combustion device may negatively impact tundra, permafrost or waterways. Completion combustion devices must be equipped with a reliable continuous pilot flame. (§60.5375a(f)(3)(ii))

7.1.8.4 You must submit the notification as specified in §60.5420a(a)(2), submit annual reports as specified in §60.5420a(b)(1) and (2) and maintain records specified in §60.5420a(c)(1)(iii) for each wildcat and delineation well. You must submit the notification as specified in §60.5420a(a)(2), submit annual reports as specified in §60.5420a(b)(1) and (2), and maintain records as specified in §60.5420a(c)(1)(iii)

and (vii) for each low pressure well. (§60.5375a(f)(4))

7.1.9 For each well affected facility with less than 300 scf of gas per stock tank barrel of oil produced, you must comply with §60.5375a(g)(1) and (2). (§60.5375a(g))

7.1.9.1 You must maintain records specified in §60.5420a(c)(1)(vi). (§60.5375a(g)(1))

7.1.9.2 You must submit reports specified in §60.5420a(b)(1) and (2). (§60.5375a(g)(2))

§60.5390a What GHG and VOC standards apply to pneumatic controller affected facilities?

For each pneumatic controller affected facility you must comply with the GHG and VOC standards, based on natural gas as a surrogate for GHG and VOC, in §60.5390a(c)(1), as applicable. Pneumatic controllers meeting the conditions in §60.5390a(a) are exempt from this requirement.

7.1.10 The requirements of §60.5390a(c)(1) are not required if you determine that the use of a pneumatic controller affected facility with a bleed rate greater than the applicable standard is required based on functional needs, including but not limited to response time, safety and positive actuation. However, you must tag such pneumatic controller with the month and year of installation, reconstruction or modification, and identification information that allows traceability to the records for that pneumatic controller, as required in §60.5420a(c)(4)(ii). (§60.5390a(a))

7.1.11 Each pneumatic controller affected facility at a location other than at a natural gas processing plant must have a bleed rate less than or equal to 6 standard cubic feet per hour. (§60.5390a(c)(1))

7.1.12 Each pneumatic controller affected facility at a location other than at a natural gas processing plant must be tagged with the month and year of installation, reconstruction or modification, and identification information that allows traceability to the records for that controller as required in §60.5420a(c)(4)(iii). (§60.5390a(c)(2))

7.1.13 You must demonstrate initial compliance with standards that apply to pneumatic controller affected facilities as required by §60.5410a(d). (§60.5390a(d))

7.1.14 You must demonstrate continuous compliance with standards that apply to pneumatic controller affected facilities as required by §60.5415a(d) [Condition 7.1.59]. (§60.5390a(e))

7.1.15 You must perform the reporting as required by §60.5420a(b)(1) and (5) and the recordkeeping as required by §60.5420a(c)(4). (§60.5390a(f))

§60.5393a What GHG and VOC standards apply to pneumatic pump affected facilities?

For each pneumatic pump affected facility you must comply with the GHG and VOC standards, based on natural gas as a surrogate for GHG and VOC, in either paragraph (a) or (b) of this section, as applicable, on or after November 30, 2016.

7.1.16 For each pneumatic pump affected facility at a well site you must comply with §60.5393a(b)(2). (§60.5393a(b))

7.1.16.1 If the pneumatic pump affected facility is located at a greenfield site as defined in §60.5430a, you must reduce natural gas emissions by 95.0 percent, except as provided in §60.5393a(b)(3) and (4). (§60.5393a(b)(1))

7.1.16.2 If the pneumatic pump affected facility is not located at a greenfield site as defined in §60.5430a, you must reduce natural gas emissions by 95.0 percent, except as provided in §60.5393a(b)(3), (4) and (5). (§60.5393a(b)(2))

7.1.17 If you use a control device or route to a process to reduce emissions, you must connect the pneumatic pump affected facility through a closed vent system that meets the requirements of §60.5411a(a) and (d). (§60.5393a(c))

7.1.18 You must demonstrate initial compliance with standards that apply to pneumatic pump affected facilities as required by §60.5410a(e). (§60.5393a(d))

7.1.19 You must perform the reporting as required by §60.5420a(b)(1) and (8) and the recordkeeping as required by §60.5420a(c)(6) through (10), (16), and (17), as applicable. (§60.5393a(e))

7.1.20 Pneumatic pumps at a well site are not subject to the requirements of §60.5393a(d) and (e) from June 2, 2017, until August 31, 2017. (§60.5393a(f))

§60.5395a What VOC standards apply to storage vessel affected facilities?

Except as provided in §60.5395a(e), you must comply with the VOC standards in this section for each storage vessel affected facility.

7.1.21 You must comply with the requirements of §60.5395a(a)(1) and (2). After 12 consecutive months of compliance with §60.5395a(a)(2), you may continue to comply with §60.5395a(a)(2), or you may comply with §60.5395a(a)(3), if applicable. If you choose to meet the requirements in §60.5395a(a)(3), you are not required to comply with the requirements of §60.5395a(a)(2) except as provided in §60.5395a(a)(3)(i) and (ii). (§60.5395a(a))

7.1.21.1 Determine the potential for VOC emissions in accordance with §60.5365a(e). (§60.5395a(a)(1))

7.1.21.2 Reduce VOC emissions by 95.0 percent within 60 days after startup. For storage vessel affected facilities receiving liquids pursuant to the standards for well affected facilities in §60.5375a(a)(1)(i) or (ii), you must achieve the required emissions reductions within 60 days after startup of production as defined in §60.5430a. (§60.5395a(a)(2))

7.1.21.3 Maintain the uncontrolled actual VOC emissions from the storage vessel affected facility at less than 4 tpy without considering control. Prior to using the uncontrolled actual VOC emission rate for compliance purposes, you must

demonstrate that the uncontrolled actual VOC emissions have remained less than 4 tpy as determined monthly for 12 consecutive months. After such demonstration, you must determine the uncontrolled actual VOC emission rate each month. The uncontrolled actual VOC emissions must be calculated using a generally accepted model or calculation methodology, and the calculations must be based on the average throughput for the month. You may no longer comply with this paragraph and must instead comply with §60.5395a(a)(2) if your storage vessel affected facility meets the conditions specified in §60.5395a(a)(3)(i) or (ii). (§60.5395a(a)(3))

a. If a well feeding the storage vessel affected facility undergoes fracturing or refracturing, you must comply with §60.5395a(a)(2) as soon as liquids from the well following fracturing or refracturing are routed to the storage vessel affected facility. (§60.5395a(a)(3)(i))

b. If the monthly emissions determination required in this section indicates that VOC emissions from your storage vessel affected facility increase to 4 tpy or greater and the increase is not associated with fracturing or refracturing of a well feeding the storage vessel affected facility, you must comply with §60.5395a(a)(2) within 30 days of the monthly determination. (§60.5395a(a)(3)(ii))

7.1.22 Control Requirements (§60.5395a(b))

7.1.22.1 Except as required in §60.5395a(b)(2), if you use a control device to reduce VOC emissions from your storage vessel affected facility, you must equip the storage vessel with a cover that meets the requirements of §60.5411a(b) and is connected through a closed vent system that meets the requirements of §60.5411a(c) and (d), and you must route emissions to a control device that meets the conditions specified in §60.5412a(c) or (d). As an alternative to routing the closed vent system to a control device, you may route the closed vent system to a process. (§60.5395a(b)(1))

7.1.22.2 If you use a floating roof to reduce emissions, you must meet the requirements of §60.112b(a)(1) or (2) and the relevant monitoring, inspection, recordkeeping, and reporting requirements in 40 CFR part 60, subpart Kb. (§60.5395a(b)(2))

7.1.23 Requirements for storage vessel affected facilities that are removed from service or returned to service. If you remove a storage vessel affected facility from service, you must comply with §60.5395a(c)(1) through (3). A storage vessel is not an affected facility under this subpart for the period that it is removed from service. (§60.5395a(c))

7.1.23.1 For a storage vessel affected facility to be removed from service, you must comply with the requirements of §60.5395a(c)(1)(i) and (ii). (§60.5395a(c)(1))

a. You must completely empty and degas the storage vessel, such that the storage vessel no longer contains crude oil, condensate, produced water or intermediate hydrocarbon liquids. A storage vessel where liquid is left on walls, as bottom

clingage or in pools due to floor irregularity is considered to be completely empty. (§60.5395a(c)(1)(i))

b. You must submit a notification as required in §60.5420a(b)(6)(v) in your next annual report, identifying each storage vessel affected facility removed from service during the reporting period and the date of its removal from service. (§60.5395a(c)(1)(ii))

7.1.23.2 If a storage vessel identified in §60.5395a(c)(1)(ii) is returned to service, you must determine its affected facility status as provided in §60.5365a(e). (§60.5395a(c)(2))

7.1.23.3 For each storage vessel affected facility returned to service during the reporting period, you must submit a notification in your next annual report as required in §60.5420a(b)(6)(vi), identifying each storage vessel affected facility and the date of its return to service. (§60.5395a(c)(3))

7.1.24 Compliance, notification, recordkeeping, and reporting. You must comply with §60.5395a(d)(1) through (3). (§60.5395a(d))

7.1.24.1 You must demonstrate initial compliance with standards as required by §60.5410a(h) and (i). (§60.5395a(d)(1))

7.1.24.2 You must demonstrate continuous compliance with standards as required by §60.5415a(e)(3). (§60.5395a(d)(2))

7.1.24.3 You must perform the required reporting as required by §60.5420a(b)(1) and (6) and the recordkeeping as required by §60.5420a(c)(5) through (8), (12) through (14), and (17), as applicable. (§60.5395a(d)(3))

§60.5397a What fugitive emissions GHG and VOC standards apply to the affected facility which is the collection of fugitive emissions components at a well site and the affected facility which is the collection of fugitive emissions components at a compressor station?

For each affected facility under §60.5365a(i) and (j), you must reduce GHG (in the form of a limitation on emissions of methane) and VOC emissions by complying with the requirements of §60.5397a(a) through (j). These requirements are independent of the closed vent system and cover requirements in §60.5411a.

7.1.25 You must monitor all fugitive emission components, as defined in §60.5430a, in accordance with §60.5397a(b) through (g). You must repair all sources of fugitive emissions in accordance with §60.5397a(h). You must keep records in accordance with §60.5397a(i) and report in accordance with §60.5397a(j). For purposes of this section, fugitive emissions are defined as: Any visible emission from a fugitive emissions component observed using optical gas imaging or an instrument reading of 500 ppm or greater using Method 21. (§60.5397a(a))

7.1.26 You must develop an emissions monitoring plan that covers the collection of fugitive emissions components at well sites and compressor stations within each company-defined area in accordance with §60.5397a(c) and (d). (§60.5397a(b))

7.1.27 Fugitive emissions monitoring plans must include the elements specified in §60.5397a(c)(1) through (8), at a minimum. (§60.5397a(c))

7.1.28 Each fugitive emissions monitoring plan must include the elements specified in §60.5397a(d)(1) through (4), at a minimum, as applicable. (§60.5397a(d))

7.1.29 Each monitoring survey shall observe each fugitive emissions component, as defined in §60.5430a, for fugitive emissions. (§60.5397a(e))

7.1.30 You must conduct an initial monitoring survey within 60 days of the startup of production, as defined in §60.5430a, for each collection of fugitive emissions components at a new well site or by June 3, 2017, whichever is later. For a modified collection of fugitive emissions components at a well site, the initial monitoring survey must be conducted within 60 days of the first day of production for each collection of fugitive emission components after the modification or by June 3, 2017, whichever is later. Notwithstanding the preceding deadlines, for each collection of fugitive emissions components at a well site located on the Alaskan North Slope, as defined in §60.5430a, that starts up production between September and March, you must conduct an initial monitoring survey within 6 months of the startup of production for a new well site, within 6 months of the first day of production after a modification of the collection of fugitive emission components, or by the following June 30, whichever is later. (§60.5397a(f)(1))

7.1.31 You must conduct an initial monitoring survey within 60 days of the startup of a new compressor station for each new collection of fugitive emissions components at the new compressor station or by June 3, 2017, whichever is later. (§60.5397a(f)(2))

7.1.32 A monitoring survey of each collection of fugitive emissions components at a well site or at a compressor station must be performed at the frequencies specified in §60.5397a(g)(1) and (2), with the exceptions noted in §60.5397a(g)(3) and (4). (§60.5397a(g))

7.1.32.1 Except as provided herein, a monitoring survey of each collection of fugitive emissions components at a well site within a company-defined area must be conducted at least semiannually after the initial survey. Consecutive semiannual monitoring surveys must be conducted at least 4 months apart. A monitoring survey of each collection of fugitive emissions components at a well site located on the Alaskan North Slope must be conducted at least annually. Consecutive annual monitoring surveys must be conducted at least 9 months apart. (§60.5397a(g)(1))

7.1.32.2 Fugitive emissions components that cannot be monitored without elevating the monitoring personnel more than 2 meters above the surface may be designated as difficult-to-monitor. Fugitive emissions components that are designated difficult-to-monitor must meet the specifications of §60.5397a(g)(3)(i) through (iv). (§60.5397a(g)(3))

7.1.32.3 Fugitive emissions components that cannot be monitored because monitoring

personnel would be exposed to immediate danger while conducting a monitoring survey may be designated as unsafe-to-monitor. Fugitive emissions components that are designated unsafe-to-monitor must meet the specifications of §60.5397a(g)(4)(i) through (iv). (§60.5397a(g)(4))

7.1.33 Each identified source of fugitive emissions shall be repaired or replaced in accordance with §60.5397a(h)(1) and (2). (§60.5397a(h))

7.1.33.1 Each identified source of fugitive emissions shall be repaired or replaced as soon as practicable, but no later than 30 calendar days after detection of the fugitive emissions. (§60.5397a(h)(1))

7.1.33.2 If the repair or replacement is technically infeasible, would require a vent blowdown, a compressor station shutdown, a well shutdown or well shut-in, or would be unsafe to repair during operation of the unit, the repair or replacement must be completed during the next scheduled compressor station shutdown, well shutdown, well shut-in, after a planned vent blowdown or within 2 years, whichever is earlier. (§60.5397a(h)(2))

7.1.33.3 Requirements for repaired and replaced fugitive components in §60.5397a(h)(3).

7.1.34 Records for each monitoring survey shall be maintained as specified §60.5420a(c)(15). (§60.5397a(i))

7.1.35 Annual reports shall be submitted for each collection of fugitive emissions components at a well site and each collection of fugitive emissions components at a compressor station that include the information specified in §60.5420a(b)(7). Multiple collection of fugitive emissions components at a well site or at a compressor station may be included in a single annual report. (§60.5397a(j))

§60.5398a What are the alternative means of emission limitations for GHG and VOC from well completions, the collection of fugitive emissions components at a well site and the collection of fugitive emissions components at a compressor station?

7.1.36 If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in GHG (in the form of a limitation on emission of methane) and VOC emissions at least equivalent to the reduction in GHG and VOC emissions achieved under §60.5397a, the Administrator will publish, in the Federal Register, a notice permitting the use of that alternative means for the purpose of compliance with §60.5397a. The notice may condition permission on requirements related to the operation and maintenance of the alternative means. (§60.5398a(a))

7.1.37 Any notice under §60.5398a (a) must be published only after notice and an opportunity for a public hearing. (§60.5398a(b))

7.1.38 The Administrator will consider applications under this section from either owners or operators of affected facilities. (§60.5398a(c))

7.1.39 Determination of equivalence to the design, equipment, work practice or operational requirements of this section will be evaluated by the following guidelines: (§60.5398a(d))

7.1.39.1 The applicant must collect, verify and submit test data, covering a period of at least 12 months to demonstrate the equivalence of the alternative means of emission limitation. The application must include the following information: (§60.5398a(d)(1))

a. A description of the technology or process. (§60.5398a(d)(1)(i))

b. The monitoring instrument and measurement technology or process. (§60.5398a(d)(1)(ii))

c. A description of performance based procedures (i.e., method) and data quality indicators for precision and bias; the method detection limit of the technology or process. (§60.5398a(d)(1)(iii))

d. For affected facilities under §60.5397a, the action criteria and level at which a fugitive emission exists. (§60.5398a(d)(1)(iv))

e. Any initial and ongoing quality assurance/quality control measures. (§60.5398a(d)(1)(v))

f. Timeframes for conducting ongoing quality assurance/quality control. (§60.5398a(d)(1)(vi))

g. Field data verifying viability and detection capabilities of the technology or process. (§60.5398a(d)(1)(vii))

h. Frequency of measurements. (§60.5398a(d)(1)(ix))

i. Minimum data availability. (§60.5398a(d)(1)(x))

j. Any restrictions for using the technology or process. (§60.5398a(d)(1)(xi))

k. Operation and maintenance procedures and other provisions necessary to ensure reduction in methane and VOC emissions at least equivalent to the reduction in methane and VOC emissions achieved under §60.5397a. (§60.5398a(d)(1)(xii))

l. Initial and continuous compliance procedures, including recordkeeping and reporting. (§60.5398a(d)(1)(xiii))

7.1.39.2 For each determination of equivalency requested, the emission reduction achieved by the design, equipment, work practice or operational requirements shall be demonstrated. (§60.5398a(d)(2))

7.1.39.3 For each affected facility for which a determination of equivalency is requested, the emission reduction achieved by the alternative means of emission limitation shall be demonstrated. (§60.5398a(d)(3)

7.1.39.4 Each owner or operator applying for a determination of equivalence to a work practice standard shall commit in writing to work practice(s) that provide for

emission reductions equal to or greater than the emission reductions achieved by the required work practice. (§60.5398a(d)(4))

7.1.40 After notice and opportunity for public hearing, the Administrator will determine the equivalence of a means of emission limitation and will publish the determination in the Federal Register. (§60.5398a(e))

7.1.41 An application submitted under this section will be evaluated as set forth in §60.5398a(f)(1) and (2). (§60.5398a(f))

7.1.41.1 The Administrator will compare the demonstrated emission reduction for the alternative means of emission limitation to the demonstrated emission reduction for the design, equipment, work practice or operational requirements and, if applicable, will consider the commitment in §60.5398a(d) [Condition 7.1.39]. (§60.5398a(f)(1))

7.1.41.2 The Administrator may condition the approval of the alternative means of emission limitation on requirements that may be necessary to ensure operation and maintenance to achieve the same emissions reduction as the design, equipment, work practice or operational requirements. (§60.5398a(f)(2))

7.1.42 Any equivalent means of emission limitations approved under §60.5398a shall constitute a required work practice, equipment, design or operational standard within the meaning of section 111(h)(1) of the CAA. (§60.5398a(g))

§60.5410a How do I demonstrate initial compliance with the standards for my well, pneumatic controller, and collection of fugitive emissions components at a well site?

You must determine initial compliance with the standards for each affected facility using the requirements in §60.5410a(d) and (j). The initial compliance period begins on August 2, 2016, or upon initial startup, whichever is later, and ends no later than 1 year after the initial startup date for your affected facility or no later than 1 year after August 2, 2016. The initial compliance period may be less than one full year.

7.1.43 Initial compliance requirements in §60.5410a(a).

7.1.44 Initial compliance requirements in §60.5410a(d).

7.1.45 Initial compliance requirements in §60.5410a(e).

7.1.46 For each storage vessel affected facility, you must comply with paragraphs (h)(1) through (6) of this section. You must demonstrate initial compliance by August 2, 2016, or within 60 days after startup, whichever is later. (§60.5410a(h))

7.1.46.1 You must determine the potential VOC emission rate as specified in §60.5365a(e). (§60.5410a(h)(1))

7.1.46.2 You must reduce VOC emissions in accordance with §60.5395a(a).

(§60.5410a(h)(2))

7.1.46.3 If you use a control device to reduce emissions, you must equip the storage vessel with a cover that meets the requirements of §60.5411a(b) and is connected through a closed vent system that meets the requirements of §60.5411a(c) and (d) to a control device that meets the conditions specified in §60.5412a(d) within 60 days after startup for storage vessels constructed, modified or reconstructed at well sites with no other wells in production, or upon startup for storage vessels constructed, modified or reconstructed at well sites with one or more wells already in production. (§60.5410a(h)(3))

7.1.46.4 You must conduct an initial performance test as required in §60.5413a within 180 days after initial startup or within 180 days of August 2, 2016, whichever is later, and you must comply with the continuous compliance requirements in §60.5415a(e). (§60.5410a(h)(4))

7.1.46.5 You must submit the information required for your storage vessel affected facility in your initial annual report as specified in §60.5420a(b)(1) and (6). (§60.5410a(h)(5))

7.1.46.6 You must maintain the records required for your storage vessel affected facility, as specified in §60.5420a(c)(5) through (8), (12) through (14), and (17), as applicable, for each storage vessel affected facility. (§60.5410a(h)(6))

7.1.47 To achieve initial compliance with the fugitive emission standards for each collection of fugitive emissions components at a well site and each collection of fugitive emissions components at a compressor station, you must comply with §60.5410a(j)(1) through (5). (§60.5410a(j))

7.1.47.1 You must develop a fugitive emissions monitoring plan as required in §60.5397a(b), (c), and (d) [Conditions 7.1.26, 7.1.27, and 7.1.28]. (§60.5410a(j)(1))

7.1.47.2 You must conduct an initial monitoring survey as required in §60.5397a(f). (§60.5410a(j)(2))

7.1.47.3 You must maintain the records specified in §60.5420a(c)(15). (§60.5410a(j)(3))

7.1.47.4 You must repair each identified source of fugitive emissions for each affected facility as required in §60.5397a(h) [Condition 7.1.33]. (§60.5410a(j)(4))

7.1.47.5 You must submit the initial annual report for each collection of fugitive emissions components at a well site and each collection of fugitive emissions components at a compressor station compressor station as required in §60.5420a(b)(1) and (7). (§60.5410a(j)(5))

§60.5411a What additional requirements must I meet to determine initial compliance for my covers and closed vent systems routing emissions from storage vessels?

You must meet the applicable requirements of this section for each cover and closed vent system used to comply with the emission standards for your storage vessels except as provided in paragraph (e) of this section.

7.1.48 Initial compliance requirements for closed vent systems for pneumatic pumps in §5411a(a).

7.1.49 Cover requirements for storage vessels and centrifugal compressor wet seal fluid degassing systems. (§60.5411a(b))

7.1.49.1 The cover and all openings on the cover (e.g., access hatches, sampling ports, pressure relief devices and gauge wells) shall form a continuous impermeable barrier over the entire surface area of the liquid in the storage vessel or wet seal fluid degassing system. (§60.5411a(b)(1))

7.1.49.2 Each cover opening shall be secured in a closed, sealed position (e.g., covered by a gasketed lid or cap) whenever material is in the unit on which the cover is installed except during those times when it is necessary to use an opening as follows (§60.5411a(b)(2)):

a. To add material to, or remove material from the unit (this includes openings necessary to equalize or balance the internal pressure of the unit following changes in the level of the material in the unit);

b. To inspect or sample the material in the unit;

c. To inspect, maintain, repair, or replace equipment located inside the unit; or

d. To vent liquids, gases, or fumes from the unit through a closed vent system designed and operated in accordance with the requirements of §60.5411a(a) or (c), and (d), to a control device or to a process.

7.1.49.3 Each storage vessel thief hatch shall be equipped, maintained and operated with a weighted mechanism or equivalent, to ensure that the lid remains properly seated and sealed under normal operating conditions, including such times when working, standing/breathing, and flash emissions may be generated. You must select gasket material for the hatch based on composition of the fluid in the storage vessel and weather conditions. (§60.5411a(b)(3))

7.1.50 Closed vent system requirements for storage vessel affected facilities using a control device or routing emissions to a process. (§60.5411a(c))

7.1.50.1 You must design the closed vent system to route all gases, vapors, and fumes emitted from the material in the storage vessel to a control device that meets the requirements specified in §60.5412a(c) and (d), or to a process. (§60.5411a(c)(1))

7.1.50.2 You must design and operate a closed vent system with no detectable emissions, as determined using olfactory, visual and auditory inspections. (§60.5411a(c)(2))

7.1.50.3 You must meet the requirements specified in §60.5411a(c)(3)(i) and (ii) if the closed vent system contains one or more bypass devices that could be used to

divert all or a portion of the gases, vapors, or fumes from entering the control device or to a process. (§60.5411a(c)(3))

a. Except as provided in paragraph (c)(3)(ii) of this section, you must comply with either §60.5411a(c)(3)(i)(A) or (B) for each bypass device. (§60.5411a(c)(3)(i))

b. Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to the requirements of §60.5411a(c)(3)(i) of. (§60.5411a(c)(3)(ii))

7.1.51 Closed vent systems requirements for centrifugal compressor wet seal fluid degassing systems, reciprocating compressors, pneumatic pumps and storage vessels using a control device or routing emissions to a process. (§60.5411a(d))

7.1.51.1 You must conduct an assessment that the closed vent system is of sufficient design and capacity to ensure that all emissions from the storage vessel are routed to the control device and that the control device is of sufficient design and capacity to accommodate all emissions from the affected facility and have it certified by a qualified professional engineer in accordance with §60.5411a(d)(1)(i) and (ii). (§60.5411a(d)(1))

a. You must provide the following certification, signed and dated by the qualified professional engineer: "I certify that the closed vent system design and capacity assessment was prepared under my direction or supervision. I further certify that the closed vent system design and capacity assessment was conducted and this report was prepared pursuant to the requirements of subpart OOOOa of 40 CFR part 60. Based on my professional knowledge and experience, and inquiry of personnel involved in the assessment, the certification submitted herein is true, accurate, and complete. I am aware that there are penalties for knowingly submitting false information." (§60.5411a(d)(1)(i))

b. The assessment shall be prepared under the direction or supervision of the qualified professional engineer who signs the certification in §60.5411a(d)(1)(i). (§60.5411a(d)(1)(ii))

7.1.52 Pneumatic pump affected facilities at a well site are not subject to the requirements of paragraph (a) of this section from June 2, 2017, until August 31, 2017.

§60.5412a What additional requirements must I meet for determining initial compliance with control devices used to comply with the emission standards for my storage vessel affected facilities?

You must meet the applicable requirements of this section for each control device used to comply with the emission standards for your centrifugal compressor affected facility, or storage vessel affected facility.

7.1.53 Each control device used to meet the emission reduction standard in §60.5395a(a)(2) for your storage vessel affected facility must be installed according to §60.5412a(d)(1) through (4), as applicable. As an alternative to §60.5412a(d)(1), you may install a control device model tested under §60.5413a(d), which meets the criteria in §60.5413a(d)(11) and meet the continuous compliance requirements in §60.5413a(e). (§60.5412a(d))

7.1.53.1 **Zeeco EGF-7-40 Enclosed Combustor:** For each combustion control device (e.g., thermal vapor incinerator, catalytic vapor incinerator, boiler, or process heater) you must meet the requirements in paragraphs (d)(1)(i) through (iv) of this section. (§60.5412a(d)(1))

a. Ensure that each enclosed combustion control device is maintained in a leak free condition. (§60.5412a(d)(1)(i))

b. Install and operate a continuous burning pilot flame. (§60.5412a(d)(1)(ii))

c. Operate the combustion control device with no visible emissions, except for periods not to exceed a total of 1 minute during any 15 minute period. A visible emissions test using section 11 of EPA Method 22 of appendix A-7 of this part must be performed at least once every calendar month, separated by at least 15 days between each test. The observation period shall be 15 minutes. Devices failing the visible emissions test must follow manufacturer's repair instructions, if available, or best combustion engineering practice as outlined in the unit inspection and maintenance plan, to return the unit to compliant operation. All inspection, repair and maintenance activities for each unit must be recorded in a maintenance and repair log and must be available for inspection. Following return to operation from maintenance or repair activity, each device must pass a Method 22 of appendix A-7 of this part visual observation as described in this paragraph. (§60.5412a(d)(1)(iii))

d. Each enclosed combustion control device (e.g., thermal vapor incinerator, catalytic vapor incinerator, boiler, or process heater) must be designed and operated in accordance with one of the performance requirements specified in paragraphs (A) through (D) of this section. (§60.5412a(d)(1)(iv))

(i) You must reduce the mass content of VOC in the gases vented to the device by 95.0 percent by weight or greater as determined in accordance with the requirements of §60.5413a(b). (§60.5412a(d)(1)(iv)(A))

7.1.53.2 **Zeeco UF6-40 Emergency Backup Open Flare:** You must design and operate a flare in accordance with the requirements of §60.18(b), and you must conduct the compliance determination using Method 22 of appendix A-7 of this part to determine visible emissions. (§60.5412a(d)(3))

7.1.53.3 You must operate each control device used to comply with this subpart at all times when gases, vapors, and fumes are vented from the storage vessel affected facility through the closed vent system to the control device. You may vent more than one affected facility to a control device used to comply with this subpart. (§60.5412a(d)(4))

§60.5413a What are the performance testing procedures for control devices used to demonstrate compliance at my storage vessel affected facilities?

This section applies to the performance testing of control devices used to demonstrate compliance with the emissions standards for your storage vessel affected facility. You must demonstrate that a control device achieves the performance requirements of §60.5412a(a)(1) (d)(1) or (2) using the performance test methods and procedures specified in this section. In addition, this section contains the requirements for enclosed combustion control device performance tests conducted by the manufacturer applicable to storage vessel and centrifugal compressor affected facilities.

7.1.54 Performance test exemptions. You are exempt from the requirements to conduct performance tests and design analyses if you use any of the control devices described in §60.5413a(a)(1). (§60.5413a(a))

7.1.54.1 **Zeeco UF6-40 Emergency Backup Open Flare:** A flare that is designed and operated in accordance with §60.18(b). You must conduct the compliance determination using Method 22 of appendix A-7 of this part to determine visible emissions. (§60.5413a(a)(1))

7.1.55 **Zeeco EGF-7-40 Enclosed Combustor:** Test Methods and Procedures in §60.5413a(b).

§60.5415a How do I demonstrate continuous compliance with the standards for my well, pneumatic controller, and collection of fugitive emissions components at a well site?

7.1.56 For each well affected facility, you must demonstrate continuous compliance by submitting the reports required by §60.5420a(b)(1) and (2) and maintaining the records for each completion operation specified in §60.5420a(c)(1). (§60.5415a(a))

7.1.57 For each pneumatic pump affected facility, you must demonstrate continuous compliance according to §60.5415a(b)(3) except as provided in §60.5415a(b)(4). (§60.5415a(b))

7.1.58 *Cover and closed vent system inspections for storage vessel affected facilities.* If you install a control device or route emissions to a process, you must inspect each closed vent system according to the procedures and schedule specified in §60.5420a(c)(1), inspect each cover according to the procedures and schedule specified in §60.5420a(c)(2), and inspect each bypass device according to the procedures of §60.5420a(c)(3). You must also comply with the requirements of §60.5420a(c)(4) through (7). (§60.5415a(c))

7.1.58.1 For each closed vent system, you must conduct an inspection at least once every calendar month as specified in §60.5420a(c)(1)(i) through (iii). (§60.5415a(c)(1))

a. You must maintain records of the inspection results as specified in §60.5420a(c)(6). (§60.5415a(c)(1)(i))

b. Conduct olfactory, visual and auditory inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or

gaps in piping; loose connections; liquid leaks; or broken or missing caps or other closure devices. (§60.5415a(c)(1)(ii))

c. Monthly inspections must be separated by at least 14 calendar days. (§60.5415a(c)(1)(iii))

7.1.58.2 For each cover, you must conduct inspections at least once every calendar month as specified in §60.5420a(c)(2)(i) through (iii). (§60.5415a(c)(2))

a. You must maintain records of the inspection results as specified in §60.5420a(c)(7). (§60.5415a(c)(2)(i))

b. Conduct olfactory, visual and auditory inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover, or between the cover and the separator wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices. In the case where the storage vessel is buried partially or entirely underground, you must inspect only those portions of the cover that extend to or above the ground surface, and those connections that are on such portions of the cover (e.g., fill ports, access hatches, gauge wells, etc.) and can be opened to the atmosphere. (§60.5415a(c)(2)(ii))

c. Monthly inspections must be separated by at least 14 calendar days. (§60.5415a(c)(2)(iii))

7.1.58.3 For each bypass device, except as provided for in §60.5411a(c)(3)(ii), you must meet the requirements of §60.5415a(c)(3)(i) or (ii). (§60.5415a(c)(3))

7.1.58.4 *Repairs.* In the event that a leak or defect is detected, you must repair the leak or defect as soon as practicable according to the requirements of §60.5415a(c)(4)(i) through (iii), except as provided in §60.5415a(c)(5). (§60.5415a(c)(4))

7.1.58.5 *Delay of repair.* Delay of repair of a closed vent system or cover for which leaks or defects have been detected is allowed if the repair is technically infeasible without a shutdown, or if you determine that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. You must complete repair of such equipment by the end of the next shutdown. (§60.5415a(c)(5))

7.1.58.6 *Unsafe to inspect requirements.* You may designate any parts of the closed vent system or cover as unsafe to inspect if the requirements in §60.5415a(c)(6)(i) and (ii) are met. Unsafe to inspect parts are exempt from the inspection requirements of §60.5415a(c)(1) and (2). (§60.5415a(c)(6))

7.1.58.7 *Difficult to inspect requirements.* You may designate any parts of the closed vent system or cover as difficult to inspect, if the requirements in §60.5415a(c)(7)(i) and (ii) are met. Difficult to inspect parts are exempt from the inspection requirements of §60.5415a(c)(1) and (2). (§60.5415a(c)(7))

7.1.59 For each pneumatic controller affected facility, you must demonstrate continuous compliance according to §60.5415a(d)(1) through (3). (§60.5415a(d))

7.1.60 You must demonstrate continuous compliance according to paragraph (e)(3) of this section for each storage vessel affected facility, for which you are using a control device or routing emissions to a process to meet the requirement of §60.5395a(a)(2). (§60.5415a(e))

7.1.60.1 For each storage vessel affected facility, you must comply with paragraphs (e)(3)(i) and (ii) of this section. (§60.5415a(e)(1))

a. You must reduce VOC emissions as specified in §60.5395a(a)(2). (§60.5415a(e)(1)(i))

b. For each control device installed to meet the requirements of §60.5395a(a)(2), you must demonstrate continuous compliance with the performance requirements of §60.5412a(d) for each storage vessel affected facility using the procedure specified in paragraph (e)(3)(ii)(A) and either (e)(3)(ii)(B) or (e)(3)(ii)(C) of this section. (§60.5415a(e)(1)(ii))

(i) You must comply with §60.5416a(c) for each cover and closed vent system. (§60.5415a(e)(1)(ii)(A))

(ii) You must comply with §60.5417a(h) for each control device. (§60.5415a(e)(1)(ii)(B))

(iii) Each closed vent system that routes emissions to a process must be operated as specified in §60.5411a(c)(2) and (3). (§60.5415a(e)(1)(ii)(C))

7.1.61 For each collection of fugitive emissions components at a well site and each collection of fugitive emissions components at a compressor station, you must demonstrate continuous compliance with the fugitive emission standards specified in §60.5397a according to §60.5415a(h)(1) through (4). (§60.5415a(h))

7.1.61.1 You must conduct periodic monitoring surveys as required in §60.5397a(g) [Condition 7.1.32]. (§60.5415a(h)(1))

7.1.61.2 You must repair or replace each identified source of fugitive emissions as required in §60.5397a(h) [Condition 7.1.33]. (§60.5415a(h)(2))

7.1.61.3 You must maintain records as specified in §60.5420a(c)(15). (§60.5415a(h)(3))

7.1.61.4 You must submit annual reports for collection of fugitive emissions components at a well site and each collection of fugitive emissions components at a compressor station as required in §60.5420a(b)(1) and (7). (§60.5415a(h)(4))

§60.5417a What are the continuous control device monitoring requirements for my storage vessel affected facilities?

You must meet the applicable requirements of this section to demonstrate continuous compliance for each control device used to meet emission standards for your storage vessel affected facility.

7.1.62 **Zeeco UF6-40 Emergency Backup Open Flare:** You must install, calibrate, operate, and maintain a device equipped with a continuous recorder to measure the values of operating parameters appropriate for the control device as specified in §60.5417a(d)(1). (§60.5417a(d))

7.1.62.1 A continuous monitoring system that measures the operating parameters in §60.5417a(d)(1)(iii). (§60.5417a(d)(1))

a. For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame. The heat sensing monitoring device is exempt from the calibration requirements of this section. (§60.5417a(d)(1)(iii))

7.1.63 A deviation for a given control device is determined to have occurred when the monitoring data or lack of monitoring data result in any one of the criteria specified in §60.5417a(g)(1) through (6) being met. If you monitor multiple operating parameters for the same control device during the same operating day and more than one of these operating parameters meets a deviation criterion specified in §60.5417a(g)(1) through (6), then a single excursion is determined to have occurred for the control device for that operating day. (§60.5417a(g))

7.1.63.1 A deviation occurs when the monitoring data are not available for at least 75 percent of the operating hours in a day. (§60.5417a(g)(4))

7.1.63.2 If the closed vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device, a deviation occurs when the requirements of §60.5417a(g)(5)(i) or (ii) are met. (§60.5417a(g)(5))

7.1.64 For each control device used to comply with the emission reduction standard in §60.5395a(a)(2) for your storage vessel affected facility, you must demonstrate continuous compliance according to §60.5417a(h)(1) through (h)(4). You are exempt from the requirements of this paragraph if you install a control device model tested in accordance with §60.5413a(d)(2) through (10), which meets the criteria in §60.5413a(d)(11), the reporting requirement in §60.5413a(d)(12), and meet the continuous compliance requirement in §60.5413a(e). (§60.5417a(h))

7.1.64.1 For each combustion device you must conduct inspections at least once every calendar month according to §60.5417a(h)(1)(i) through (iv). Monthly inspections must be separated by at least 14 calendar days. (§60.5417a(h)(1))

a. Conduct visual inspections to confirm that the pilot is lit when vapors are being routed to the combustion device and that the continuous burning pilot flame is operating properly. (§60.5417a(h)(1)(i))

b. Conduct inspections to monitor for visible emissions from the combustion device using section 11 of EPA Method 22 of appendix A of this part. The observation period shall be 15 minutes. Devices must be operated with no visible emissions, except for periods not to exceed a total of 1 minute during any 15 minute period. (§60.5417a(h)(1)(ii))

c. Conduct olfactory, visual and auditory inspections of all equipment associated with the combustion device to ensure system integrity. (§60.5417a(h)(1)(iii))

d. For any absence of the pilot flame, or other indication of smoking or improper equipment operation (e.g., visual, audible, or olfactory), you must ensure the equipment is returned to proper operation as soon as practicable after the event occurs. At a minimum, you must perform the procedures specified in §60.5417a(h)(1)(iv)(A) and (B). (§60.5417a(h)(1)(iv))

(i) You must check the air vent for obstruction. If an obstruction is observed, you must clear the obstruction as soon as practicable. (§60.5417a(h)(1)(iv)(A))

(ii) You must check for liquid reaching the combustor. (§60.5417a(h)(1)(iv)(B))

7.1.64.2 Each control device must be operated following the manufacturer's written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing emissions. Records of the manufacturer's written operating instructions, procedures, and maintenance schedule must be available for inspection as specified in §60.5420a(c)(13). (§60.5417a(h)(3))

7.1.64.3 **Zeeco EGF-7-40 Enclosed Combustor:** Conduct a periodic performance test no later than 60 months after the initial performance test as specified in §60.5413a(b)(5)(ii) and conduct subsequent periodic performance tests at intervals no longer than 60 months following the previous periodic performance test. (§60.5417a(h)(4))

§60.5420a What are my notification, reporting, and recordkeeping requirements?

7.1.65 Notification requirements for well affected facilities in §60.5420a(a)(2).

7.1.66 Submit annual reports according to the requirements in §60.5420a(b).

7.1.67 Maintain records as specified in §60.5420a(c).

§60.5425a What parts of the General Provisions apply to me?

7.1.68 Table 3 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

7.2 The affected facility which is the collection of fugitive emissions components at a well site is subject to the requirements in 40 CFR Part 60 Subpart A "General Provisions," as adopted by reference in Colorado Regulation No. 6, Part A, Subpart A. These requirements include, but are not limited to the following:

7.2.1 Determination of construction or modification in §60.5

7.2.2 Review of plans in §60.6

7.2.3 Notification and recordkeeping in §60.7

Except that §60.7 only applies as specified in §60.5420a(a).

7.2.4 Performance testing in §60.8

7.2.5 Availability of information in §60.9

7.2.6 State authority in §60.10

7.2.7 Circumvention in §60.12

7.2.8 Modification in §60.14

To the extent any provision in §60.14 conflicts with specific provisions in subpart OOOOa, it is superseded by subpart OOOOa provisions.

7.2.9 Reconstruction in §60.15

7.2.10 Priority list in §60.16

7.2.11 Incorporations by reference in §60.17

7.2.12 General control device and work practice requirements in §60.18

7.2.13 General notification and reporting requirement in §60.19

SECTION III - Permit Shield

Regulation No. 3, 5 CCR 1001-5, Part C, §§ I.A.4, V.D. & XIII.B; § 25-7-114.4(3)(a), C.R.S.

1. Specific Non-Applicable Requirements

Based on the information available to the Division and supplied by the applicant, the following parameters and requirements have been specifically identified as non-applicable to the facility to which this permit has been issued. This shield does not protect the source from any violations that occurred prior to or at the time of permit issuance. In addition, this shield does not protect the source from any violations that occur as a result of any modifications or reconstruction on which construction commenced prior to permit issuance.

Emission Unit Description & Number	Applicable Requirement	Justification
PW Tanks (AIRS ID 003)	40 CFR 60, Subpart OOOOa – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015 For Produced Water Tanks (point 003) only	Potential post-control VOC emissions from point 003 are limited to less than 6 tons per year, therefore storage tanks are not subject to storage tank requirements of OOOOa.

2. General Conditions

Compliance with this Operating Permit shall be deemed compliance with all applicable requirements specifically identified in the permit and other requirements specifically identified in the permit as not applicable to the source. This permit shield shall not alter or affect the following:

2.1 The provisions of §§ 25-7-112 and 25-7-113, C.R.S., or § 303 of the federal act, concerning enforcement in cases of emergency;

2.2 The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

2.3 The applicable requirements of the federal Acid Rain Program, consistent with § 408(a) of the federal act;

2.4 The ability of the Air Pollution Control Division to obtain information from a source pursuant to §25-7-111(2)(I), C.R.S., or the ability of the Administrator to obtain information pursuant to § 114 of the federal act;

2.5 The ability of the Air Pollution Control Division to reopen the Operating Permit for cause pursuant to Regulation No. 3, Part C, § XIII.

2.6 Sources are not shielded from terms and conditions that become applicable to the source subsequent to permit issuance.

3. Stream-lined Conditions

The following applicable requirements have been subsumed within this operating permit using the pertinent streamlining procedures approved by the U.S. EPA. For purposes of the permit shield, compliance with the listed permit conditions will also serve as a compliance demonstration for purposes of the associated subsumed requirements.

Permit Condition(s)	Streamlined (Subsumed) Requirements
Section II – Condition 5.4.8.1 and 5.5.5	Colorado Regulation No. 7, Section XVII.A.2 [definition of Approved Instrument Monitoring Method – only with respect to other Division-approved alternatives] – **State only requirement**
Section II – Condition 5.4.5	Colorado Regulation No. 7, Section XVII.C.1.d.(ii) through (v) [only with respect to the inspection frequency requirements] – **State only requirement**
Section IV – General Conditions 22.b and c	Colorado Regulation No. 7, Section XVII.C.3 [requirement to maintain records of monthly crude oil and produced water throughput] – **State only requirement**
	Colorado Regulation No. 7, Section XVII.F.8 [only the requirement to maintain records for two years] – **state only requirement**
	Colorado Regulation No. 7, Section XVIII.E.2.c [only the requirement to maintain records for three years] – **state only requirement**

SECTION I - General Permit Conditions ver 3/13/18

1. Administrative Changes

Regulation No. 3, 5 CCR 1001-5, Part A, § III.

The permittee shall submit an application for an administrative permit amendment to the Division for those permit changes that are described in Regulation No. 3, Part A, § I.B.1. The permittee may immediately make the change upon submission of the application to the Division.

2. Certification Requirements

Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.B.9., V.C.16.a.& e. and V.C.17.

a. Any application, report, document and compliance certification submitted to the Air Pollution Control Division pursuant to Regulation No. 3 or the Operating Permit shall contain a certification by a responsible official of the truth, accuracy and completeness of such form, report or certification stating that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

b. All compliance certifications for terms and conditions in the Operating Permit shall be submitted to the Air Pollution Control Division at least annually unless a more frequent period is specified in the applicable requirement or by the Division in the Operating Permit.

c. Compliance certifications shall contain:

(i) the identification of each permit term and condition that is the basis of the certification;

(ii) the compliance status of the source;

(iii) whether compliance was continuous or intermittent;

(iv) method(s) used for determining the compliance status of the source, currently and over the reporting period; and

(v) such other facts as the Air Pollution Control Division may require to determine the compliance status of the source.

d. All compliance certifications shall be submitted to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit.

e. If the permittee is required to develop and register a risk management plan pursuant to § 112(r) of the federal act, the permittee shall certify its compliance with that requirement; the Operating Permit shall not incorporate the contents of the risk management plan as a permit term or condition.

3. Common Provisions

Common Provisions Regulation, 5 CCR 1001-2 §§ II.A., II.B., II.C., II.E., II.F., II.I, and II.J

a. To Control Emissions Leaving Colorado

When emissions generated from sources in Colorado cross the State boundary line, such emissions shall not cause the air quality standards of the receiving State to be exceeded, provided reciprocal action is taken by the receiving State.

b. Emission Monitoring Requirements

The Division may require owners or operators of stationary air pollution sources to install, maintain, and use instrumentation to monitor and record emission data as a basis for periodic reports to the Division.

c. Performance Testing

The owner or operator of any air pollution source shall, upon request of the Division, conduct performance test(s) and furnish the Division a written report of the results of such test(s) in order to determine compliance with applicable emission control regulations.

Performance test(s) shall be conducted and the data reduced in accordance with the applicable reference test methods unless the Division:

(i) specifies or approves, in specific cases, the use of a test method with minor changes in methodology;

(ii) approves the use of an equivalent method;

(iii) approves the use of an alternative method the results of which the Division has determined to be adequate for indicating where a specific source is in compliance; or

(iv) waives the requirement for performance test(s) because the owner or operator of a source has demonstrated by other means to the Division's satisfaction that the affected facility is in compliance with the standard. Nothing in this paragraph shall be construed to abrogate the Commission's or Division's authority to require testing under the Colorado Revised Statutes, Title 25, Article 7, and pursuant to regulations promulgated by the Commission.

Compliance test(s) shall be conducted under such conditions as the Division shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Division such records as may be necessary to determine the conditions of the performance test(s). Operations during period of startup, shutdown, and malfunction shall not constitute representative conditions of performance test(s) unless otherwise specified in the applicable standard.

The owner or operator of an affected facility shall provide the Division thirty days prior notice of the performance test to afford the Division the opportunity to have an observer present. The Division may waive the thirty day notice requirement provided that arrangements satisfactory to the Division are made for earlier testing.

The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(i) Sampling ports adequate for test methods applicable to such facility;

(ii) Safe sampling platform(s);

(iii) Safe access to sampling platform(s); and

(iv) Utilities for sampling and testing equipment.

Each performance test shall consist of at least three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of results of at least three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the Division's approval, be determined using the arithmetic mean of the results of the two other runs.

Nothing in this section shall abrogate the Division's authority to conduct its own performance test(s) if so warranted.

d. Affirmative Defense Provision for Excess Emissions during Malfunctions

An affirmative defense to a claim of violation under these regulations is provided to owners and operators for civil penalty actions for excess emissions during periods of malfunction. To establish the affirmative defense and to be relieved of a civil penalty in any action to enforce an applicable requirement, the owner or operator of the facility must meet the notification requirements below in a timely manner and prove by a preponderance of evidence that:

(i) The excess emissions were caused by a sudden, unavoidable breakdown of equipment, or a sudden, unavoidable failure of a process to operate in the normal or usual manner, beyond the reasonable control of the owner or operator;

(ii) The excess emissions did not stem from any activity or event that could have reasonably been foreseen and avoided, or planned for, and could not have been avoided by better operation and maintenance practices;

(iii) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded;

(iv) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;

(v) All reasonably possible steps were taken to minimize the impact of the excess emissions on ambient air quality;

(vi) All emissions monitoring systems were kept in operation (if at all possible);

(vii) The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence;

(viii) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

(ix) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions. This section is intended solely to be a factor in determining whether an affirmative defense is available to an owner or operator, and shall not constitute an additional applicable requirement; and

(x) During the period of excess emissions, there were no exceedances of the relevant ambient air quality standards established in the Commissions' Regulations that could be attributed to the emitting source.

The owner or operator of the facility experiencing excess emissions during a malfunction shall notify the division verbally as soon as possible, but no later than noon of the Division's next working day, and shall submit written notification following the initial occurrence of the excess emissions by the end of the source's next reporting period. The notification shall address the criteria set forth above.

The Affirmative Defense Provision contained in this section shall not be available to claims for injunctive relief.

The Affirmative Defense Provision does not apply to failures to meet federally promulgated performance standards or emission limits, including, but not limited to, new source performance standards and national emission standards for hazardous air pollutants. The affirmative defense provision does not apply to state implementation plan (sip) limits or permit limits that have been set taking into account potential emissions during malfunctions, including, but not necessarily limited to, certain limits with 30-day or longer averaging times, limits that indicate they apply during malfunctions, and limits that indicate they apply at all times or without exception.

e. Circumvention Clause

A person shall not build, erect, install, or use any article, machine, equipment, condition, or any contrivance, the use of which, without resulting in a reduction in the total release of air pollutants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of this regulation. No person shall circumvent this regulation by using more openings than is considered normal practice by the industry or activity in question.

f. Compliance Certifications

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in the Colorado State Implementation Plan, nothing in the Colorado State Implementation Plan shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. Evidence that has the effect of making any relevant standard or permit term more stringent shall not be credible for proving a violation of the standard or permit term.

When compliance or non-compliance is demonstrated by a test or procedure provided by permit or other applicable requirement, the owner or operator shall be presumed to be in compliance or non-compliance unless other relevant credible evidence overcomes that presumption.

g. Affirmative Defense Provision for Excess Emissions During Startup and Shutdown

An affirmative defense is provided to owners and operators for civil penalty actions for excess emissions during periods of startup and shutdown. To establish the affirmative defense and to be relieved of a civil penalty in any action to enforce an applicable requirement, the owner or operator of the facility must meet the notification requirements below in a timely manner and prove by a preponderance of the evidence that:

(i) The periods of excess emissions that occurred during startup and shutdown were short and infrequent and could not have been prevented through careful planning and design;

(ii) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation or maintenance;

(iii) If the excess emissions were caused by a bypass (an intentional diversion of control equipment), then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(iv) The frequency and duration of operation in startup and shutdown periods were minimized to the maximum extent practicable;

(v) All possible steps were taken to minimize the impact of excess emissions on ambient air quality;

(vi) All emissions monitoring systems were kept in operation (if at all possible);

(vii) The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence; and,

(viii) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions. This subparagraph is intended solely to be a factor in determining whether an affirmative defense is available to an owner or operator, and shall not constitute an additional applicable requirement.

The owner or operator of the facility experiencing excess emissions during startup and shutdown shall notify the division verbally as soon as possible, but no later than two (2) hours after the start of the next working day, and shall submit written quarterly notification following the initial occurrence of the excess emissions. The notification shall address the criteria set forth above.

The Affirmative Defense Provision contained in this section shall not be available to claims for injunctive relief.

The Affirmative Defense Provision does not apply to State Implementation Plan provisions or other requirements that derive from new source performance standards or national emissions standards for hazardous air pollutants, or any other federally enforceable performance standard or emission limit with an averaging time greater than twenty-four hours. In addition, an affirmative defense cannot be used by a single source or small group of sources where the excess emissions have the potential to cause an exceedance of the ambient air quality standards or Prevention of Significant Deterioration (PSD) increments.

In making any determination whether a source established an affirmative defense, the Division shall consider the information within the notification required above and any other information the Division deems necessary, which may include, but is not limited to, physical inspection of the facility and review of documentation pertaining to the maintenance and operation of process and air pollution control equipment.

4. Compliance Requirements

Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.C.9., V.C.11. & 16.d. and § 25-7-122.1(2), C.R.S.

a. The permittee must comply with all conditions of the Operating Permit. Any permit noncompliance relating to federally-enforceable terms or conditions constitutes a violation of the federal act, as well as the state act and Regulation No. 3. Any permit noncompliance relating to state-only terms or conditions constitutes a violation of the state act and Regulation No. 3, shall be enforceable pursuant to state law, and shall not be enforceable by citizens under § 304 of the federal act. Any such violation of the federal act, the state act or regulations implementing either statute is grounds for enforcement action, for permit termination, revocation and reissuance or modification or for denial of a permit renewal application.

b. It shall not be a defense for a permittee in an enforcement action or a consideration in favor of a permittee in a permit termination, revocation or modification action or action denying a permit renewal application that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

c. The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of any request by the permittee for a permit modification, revocation and reissuance, or termination, or any notification of planned changes or anticipated noncompliance does not stay any permit condition, except as provided in §§ X. and XI. of Regulation No. 3, Part C.

d. The permittee shall furnish to the Air Pollution Control Division, within a reasonable time as specified by the Division, any information that the Division may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Division copies of records required to be kept by the permittee, including information claimed to be confidential. Any information subject to a claim of confidentiality shall be specifically identified and submitted separately from information not subject to the claim.

e. Any schedule for compliance for applicable requirements with which the source is not in compliance at the time of permit issuance shall be supplemental, and shall not sanction noncompliance with, the applicable requirements on which it is based.

f. For any compliance schedule for applicable requirements with which the source is not in compliance at the time of permit issuance, the permittee shall submit, at least every 6 months unless a more frequent period is specified in the applicable requirement or by the Air Pollution Control Division, progress reports which contain the following:

(i) dates for achieving the activities, milestones, or compliance required in the schedule for compliance, and dates when such activities, milestones, or compliance were achieved; and

(ii) an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

g. The permittee shall not knowingly falsify, tamper with, or render inaccurate any monitoring device or method required to be maintained or followed under the terms and conditions of the Operating Permit.

5. Emergency Provisions

Regulation No. 3, 5 CCR 1001-5, Part C, § VII

An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed the technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. "Emergency" does not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. An emergency constitutes an affirmative defense to an enforcement action brought for noncompliance with a technology-based emission limitation if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. an emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. the permitted facility was at the time being properly operated;

c. during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

d. the permittee submitted oral notice of the emergency to the Air Pollution Control Division no later than noon of the next working day following the emergency, and followed by written notice within one month of the time when emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

This emergency provision is in addition to any emergency or malfunction provision contained in any applicable requirement.

6. Emission Controls for Asbestos

Regulation No. 8, 5 CCR 1001-10, Part B

The permittee shall not conduct any asbestos abatement activities except in accordance with the provisions of Regulation No. 8, Part B, "asbestos control."

7. Emissions Trading, Marketable Permits, Economic Incentives

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.13.

No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are specifically provided for in the permit.

8. Fee Payment

C.R.S §§ 25-7-114.1(6) and 25-7-114.7

a. The permittee shall pay an annual emissions fee in accordance with the provisions of C.R.S. § 25-7-114.7. A 1% per month late payment fee shall be assessed against any invoice amounts not paid in full on the 91st day after the date of invoice, unless a permittee has filed a timely protest to the invoice amount.

b. The permittee shall pay a permit processing fee in accordance with the provisions of C.R.S. § 25-7-114.7. If the Division estimates that processing of the permit will take more than 30 hours, it will notify the permittee of its estimate of what the actual charges may be prior to commencing any work exceeding the 30 hour limit.

c. The permittee shall pay an APEN fee in accordance with the provisions of C.R.S. § 25-7-114.1(6) for each APEN or revised APEN filed.

9. Fugitive Particulate Emissions

Regulation No. 1, 5 CCR 1001-3, § III.D.1.

The permittee shall employ such control measures and operating procedures as are necessary to minimize fugitive particulate emissions into the atmosphere, in accordance with the provisions of Regulation No. 1, § III.D.1.

10. Inspection and Entry

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.16.b.

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Air Pollution Control Division, or any authorized representative, to perform the following:

a. enter upon the permittee's premises where an Operating Permit source is located, or emissions-related activity is conducted, or where records must be kept under the terms of the permit;

b. have access to, and copy, at reasonable times, any records that must be kept under the conditions of the permit;

c. inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the Operating Permit;

d. sample or monitor at reasonable times, for the purposes of assuring compliance with the Operating Permit or applicable requirements, any substances or parameters.

11. Minor Permit Modifications

Regulation No. 3, 5 CCR 1001-5, Part C, §§ X. & XI.

The permittee shall submit an application for a minor permit modification before making the change requested in the application. The permit shield shall not extend to minor permit modifications.

12. New Source Review

Regulation No. 3, 5 CCR 1001-5, Parts B & D

The permittee shall not commence construction or modification of a source required to be reviewed under the New Source Review provisions of Regulation No. 3, Parts B and/or D, as applicable, without first receiving a construction permit.

13. No Property Rights Conveyed

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.11.d.

This permit does not convey any property rights of any sort, or any exclusive privilege.

14. Odor

Regulation No. 2, 5 CCR 1001-4, Part A

As a matter of state law only, the permittee shall comply with the provisions of Regulation No. 2 concerning odorous emissions.

15. Off-Permit Changes to the Source

Regulation No. 3, 5 CCR 1001-5, Part C, § XII.B.

The permittee shall record any off-permit change to the source that causes the emissions of a regulated pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from the change, including any other data necessary to show compliance with applicable ambient air quality standards. The permittee shall provide contemporaneous notification to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit. The permit shield shall not apply to any off-permit change.

16. Opacity

Regulation No. 1, 5 CCR 1001-3, §§ I., II.

The permittee shall comply with the opacity emissions limitation set forth in Regulation No. 1, §§ I.- II.

17. Open Burning

Regulation No. 9, 5 CCR 1001-11

The permittee shall obtain a permit from the Division for any regulated open burning activities in accordance with provisions of Regulation No. 9.

18. Ozone Depleting Compounds

Regulation No. 15, 5 CCR 1001-19

The permittee shall comply with the provisions of Regulation No. 15 concerning emissions of ozone depleting compounds. Sections I., II.C., II.D., III. IV., and V. of Regulation No. 15 shall be enforced as a matter of state law only.

19. Permit Expiration and Renewal

Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.B.6., IV.C., V.C.2.

a. The permit term shall be five (5) years. The permit shall expire at the end of its term. Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted.

b. Applications for renewal shall be submitted at least twelve months, but not more than 18 months, prior to the expiration of the Operating Permit. An application for permit renewal may address only those portions of the permit that require revision, supplementing, or deletion, incorporating the remaining permit terms by reference from the previous permit. A copy of any materials incorporated by reference must be included with the application.

20. Portable Sources

Regulation No. 3, 5 CCR 1001-5, Part C, § II.D.

Portable Source permittees shall notify the Air Pollution Control Division at least 10 days in advance of each change in location.

21. Prompt Deviation Reporting

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.7.b.

The permittee shall promptly report any deviation from permit requirements, including those attributable to malfunction conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken.

"Prompt" is defined as follows:

a. Any definition of "prompt" or a specific timeframe for reporting deviations provided in an underlying applicable requirement as identified in this permit; or

b. Where the underlying applicable requirement fails to address the time frame for reporting deviations, reports of deviations will be submitted based on the following schedule:

(i) For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in the applicable regulation) that continue for more than an hour in excess of permit requirements, the report shall be made within 24 hours of the occurrence;

(ii) For emissions of any regulated air pollutant, excluding a hazardous air pollutant or a toxic air pollutant that continue for more than two hours in excess of permit requirements, the report shall be made within 48 hours; and

(iii) For all other deviations from permit requirements, the report shall be submitted every six (6) months, except as otherwise specified by the Division in the permit in accordance with paragraph 22.d. below.

c. If any of the conditions in paragraphs b.i or b.ii above are met, the source shall notify the Division by telephone (303-692-3155) or facsimile (303-782-0278) based on the timetables listed above. *[Explanatory note: Notification by telephone or facsimile must specify that this notification is a deviation report for an Operating Permit.]* A written notice, certified consistent with General Condition 2.a. above (Certification Requirements), shall be submitted within 10 working days of the occurrence. All deviations reported under this section shall also be identified in the 6-month report required above.

"Prompt reporting" does not constitute an exception to the requirements of "Emergency Provisions" for the purpose of avoiding enforcement actions.

22. Record Keeping and Reporting Requirements

Regulation No. 3, 5 CCR 1001-5, Part A, § II.; Part C, §§ V.C.6., V.C.7.

a. Unless otherwise provided in the source specific conditions of this Operating Permit, the permittee shall maintain compliance monitoring records that include the following information:

(i) date, place as defined in the Operating Permit, and time of sampling or measurements;

(ii) date(s) on which analyses were performed;

(iii) the company or entity that performed the analysis;

(iv) the analytical techniques or methods used;

(v) the results of such analysis; and

(vi) the operating conditions at the time of sampling or measurement.

b. The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report or application. Support information, for this purpose, includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the Operating Permit. With prior approval of the Air Pollution Control Division, the permittee may maintain any of the above records in a computerized form.

c. Permittees must retain records of all required monitoring data and support information for the most recent twelve (12) month period, as well as compliance certifications for the past five (5) years on-site at all times. A permittee shall make available for the Air Pollution Control Division's review all other records of required monitoring data and support information required to be retained by the permittee upon 48 hours advance notice by the Division.

d. The permittee shall submit to the Air Pollution Control Division all reports of any required monitoring at least every six (6) months, unless an applicable requirement, the compliance assurance monitoring rule, or the Division requires submission on a more frequent basis. All instances of deviations from any permit requirements must be clearly identified in such reports.

e. The permittee shall file an Air Pollutant Emissions Notice ("APEN") prior to constructing, modifying, or altering any facility, process, activity which constitutes a stationary source from which air pollutants are or are to be emitted, unless such source is exempt from the APEN filing requirements of Regulation No. 3, Part A, § II.D. A revised APEN shall be filed annually whenever a significant change in emissions, as defined in Regulation No. 3, Part A, § II.C.2., occurs; whenever there is a change in owner or operator of any facility, process, or activity; whenever new control equipment is installed; whenever a different type of control equipment replaces an existing type of control equipment; whenever a permit limitation must be modified; or before the APEN expires. An APEN is valid for a period of five years. The five-year period recommences when a revised APEN is received by the Air Pollution Control Division. Revised APENs shall be submitted no later than 30 days before the five-year term expires. Permittees submitting revised APENs to inform the Division of a change in actual emission rates must do so by April 30 of the following year. Where a permit revision is required, the revised APEN must be filed along with a request for permit revision. APENs for changes in control equipment must be submitted before the change occurs. Annual fees are based on the most recent APEN on file with the Division.

23. Reopenings for Cause

Regulation No. 3, 5 CCR 1001-5, Part C, § XIII.

a. The Air Pollution Control Division shall reopen, revise, and reissue Operating Permits; permit reopenings and reissuance shall be processed using the procedures set forth in Regulation No. 3, Part C, § III., except that proceedings to reopen and reissue permits affect only those parts of the permit for which cause to reopen exists.

b. The Division shall reopen a permit whenever additional applicable requirements become applicable to a major source with a remaining permit term of three or more years, unless the effective date of the requirements is later than the date on which the permit expires, or unless a general permit is obtained to address the new requirements; whenever additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program; whenever the Division determines the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or whenever the Division determines that the permit must be revised or revoked to assure compliance with an applicable requirement.

c. The Division shall provide 30 days' advance notice to the permittee of its intent to reopen the permit, except that a shorter notice may be provided in the case of an emergency.

d. The permit shield shall extend to those parts of the permit that have been changed pursuant to the reopening and reissuance procedure.

24. Requirements for Major Stationary Sources

Regulation No. 3, 5 CCR 1001-5, Part D, §§ V.A.7, VI.B.5 & VI.B.6

The following provisions apply to projects at existing emissions units at a major stationary source (other than projects at a source with a PAL) that are not part of a major modification and where the owner or operator relies on projected actual emissions. The definitions of baseline actual emissions, major modification, major stationary source, PAL, projected actual emissions, regulated NSR pollutant and significant can be found in Regulation No. 3, Part D, § II.A.

a. Before beginning actual construction of the project, the owner or operator shall document and maintain a record of the following information:

(i) a description of the project;

(ii) identification of the emissions unit(s) whose emissions of a regulated NSR pollutant could be affected by the project; and

(iii) a description of the applicability test used to determine the project is not a major modification for any regulated NSR pollutants, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded and an explanation for why such amount was excluded, and any netting calculations, if applicable.

b. The owner or operator shall monitor emissions of any regulated NSR pollutant that could increase as a result of the project from any emissions units identified in paragraph a.(ii) and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operation after the change, or for a period of ten (10) years following resumption of regular operation after the change if the project increases the design capacity or potential to emit of that regulated NSR pollutant at such emissions unit.

c. For existing electric utility steam generating units the following requirements apply:

(i) Before beginning actual construction, the owner or operator shall provide a copy of the information required by paragraph a above to the Division. The owner or operator is not required to obtain a determination from the Division prior to beginning actual construction.

(ii) The owner or operate shall submit a report to the Division within sixty days after the end of each year during which records must be generated under paragraph b above setting out the unit's annual emissions during the calendar year that preceded submission of the report.

d. For existing emissions units that are not electric utility steam generating units, the owner or operator shall submit a report to the Division if the annual emissions from the project, in tons per year, exceed the baseline actual emissions (documented and maintained per paragraph a(iii)) by a significant amount for that regulated NSR pollutant, and if such emissions differ from the preconstruction projection (documented and maintained per paragraph a.(iii)). Such report shall be submitted to the Division within sixty days after the end of such year. The report shall contain the following:

(i) The name, address and telephone number of the owner or operator;

(ii) The annual emissions as calculated per paragraph b; and

(iii) Any other information that the owner or operator wishes to include in the report.

e. The owner of operation of the source shall make the information in paragraph a available for review upon request to the Division or the general public.

25. Section 502(b)(10) Changes

Regulation No. 3, 5 CCR 1001-5, Part C, § XII.A.

The permittee shall provide a minimum 7-day advance notification to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit. The permittee shall attach a copy of each such notice given to its Operating Permit.

26. Severability Clause

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.10.

In the event of a challenge to any portion of the permit, all emissions limits, specific and general conditions, monitoring, record keeping and reporting requirements of the permit, except those being challenged, remain valid and enforceable.

27. Significant Permit Modifications

Regulation No. 3, 5 CCR 1001-5, Part C, § III.B.2.

The permittee shall not make a significant modification required to be reviewed under Regulation No. 3, Part B ("Construction Permit" requirements) without first receiving a construction permit. The permittee shall submit a complete Operating Permit application or application for an Operating Permit revision for any new or modified source within twelve months of commencing operation, to the address listed in Item 1 in Appendix D of this permit. If the permittee chooses to use the "Combined Construction/Operating Permit" application procedures of Regulation No. 3, Part C, then the Operating Permit must be received prior to commencing construction of the new or modified source.

28. Special Provisions Concerning the Acid Rain Program

Regulation No. 3, 5 CCR 1001-5, Part C, §§ V.C.1.b. & 8

a. Where an applicable requirement of the federal act is more stringent than an applicable requirement of regulations promulgated under Title IV of the federal act, 40 Code of Federal Regulations (CFR) Part 72, both provisions shall be incorporated into the permit and shall be federally enforceable.

b. Emissions exceeding any allowances that the source lawfully holds under Title IV of the federal act or the regulations promulgated thereunder, 40 CFR Part 72, are expressly prohibited.

29. Transfer or Assignment of Ownership

Regulation No. 3, 5 CCR 1001-5, Part C, § II.C.

No transfer or assignment of ownership of the Operating Permit source will be effective unless the prospective owner or operator applies to the Air Pollution Control Division on Division-supplied Administrative Permit Amendment forms, for reissuance of the existing Operating Permit. No administrative permit shall be complete until a written agreement containing a specific date for transfer of permit, responsibility, coverage, and liability between the permittee and the prospective owner or operator has been submitted to the Division.

30. Volatile Organic Compounds

Regulation No. 7, 5 CCR 1001-9, §§ III & V.

The requirements in paragraphs a, b and e apply to sources located in an ozone non-attainment area or the Denver 1-hour ozone attainment/maintenance area. The requirements in paragraphs c and d apply statewide.

a. All storage tank gauging devices, anti-rotation devices, accesses, seals, hatches, roof drainage systems, support structures, and pressure relief valves shall be maintained and operated to prevent detectable vapor loss except when opened, actuated, or used for necessary and proper activities (e.g. maintenance). Such opening, actuation, or use shall be limited so as to minimize vapor loss.

   Detectable vapor loss shall be determined visually, by touch, by presence of odor, or using a portable hydrocarbon analyzer. When an analyzer is used, detectable vapor loss means a VOC concentration exceeding 10,000 ppm. Testing shall be conducted as in Regulation No. 7, Section VIII.C.3.

b. Except when otherwise provided by Regulation No. 7, all volatile organic compounds, excluding petroleum liquids, transferred to any tank, container, or vehicle compartment with a capacity exceeding 212 liters (56 gallons), shall be transferred using submerged or bottom filling equipment. For top loading, the fill tube shall reach within six inches of the bottom of the tank compartment. For bottom-fill operations, the inlet shall be flush with the tank bottom.

c. The permittee shall not dispose of volatile organic compounds by evaporation or spillage unless Reasonably Available Control Technology (RACT) is utilized.

d. No owner or operator of a bulk gasoline terminal, bulk gasoline plant, or gasoline dispensing facility as defined in Colorado Regulation No. 7, Section VI, shall permit gasoline to be intentionally spilled, discarded in sewers, stored in open containers, or disposed of in any other manner that would result in evaporation.

e. Beer production and associated beer container storage and transfer operations involving volatile organic compounds with a true vapor pressure of less than 1.5 PSIA actual conditions are exempt from the provisions of paragraph b, above.

31. Wood Stoves and Wood burning Appliances

Regulation No. 4, 5 CCR 1001-6

The permittee shall comply with the provisions of Regulation No. 4 concerning the advertisement, sale, installation, and use of wood stoves and wood burning appliances.

OPERATING PERMIT APPENDICES

A - INSPECTION INFORMATION
B - MONITORING AND PERMIT DEVIATION REPORT
C - COMPLIANCE CERTIFICATION REPORT
D - NOTIFICATION ADDRESSES
E - PERMIT ACRONYMS
F - PERMIT MODIFICATIONS
G - COMPLIANCE ASSURANCE MONITORING PLAN – ENCLOSED COMBUSTORS FOR FLARING OF PRODUCED GAS FROM HEATER-TREATERS

*DISCLAIMER:

None of the information found in these Appendices shall be considered to be State or Federally enforceable, except as otherwise provided in the permit, and is presented to assist the source, permitting authority, inspectors, and citizens.

APPENDIX A - Inspection Information

1. **Directions to Plant:**

   From I-70, take exit 205; merge onto CO-9 N/Blue River Pkwy., travel ~37.6 miles
   Turn left onto US-40 W/Park Ave., travel ~27.1 miles
   Turn right onto CO-14 E, travel ~20.5 miles
   Turn right to get to Bighorn Pad entrance

2. **Safety Equipment Required:**

   Eye Protection; Hard Hat; Safety Shoes; Hearing Protection; Gloves; Personal 4-Gas Monitor; Fire Retardant Clothing

3. **Facility Plot Plan:**

   The attached Figure (following page) shows the plot plan as submitted in the September 19, 2017 Title V Operating Permit Application.

4. **List of Insignificant Activities**:

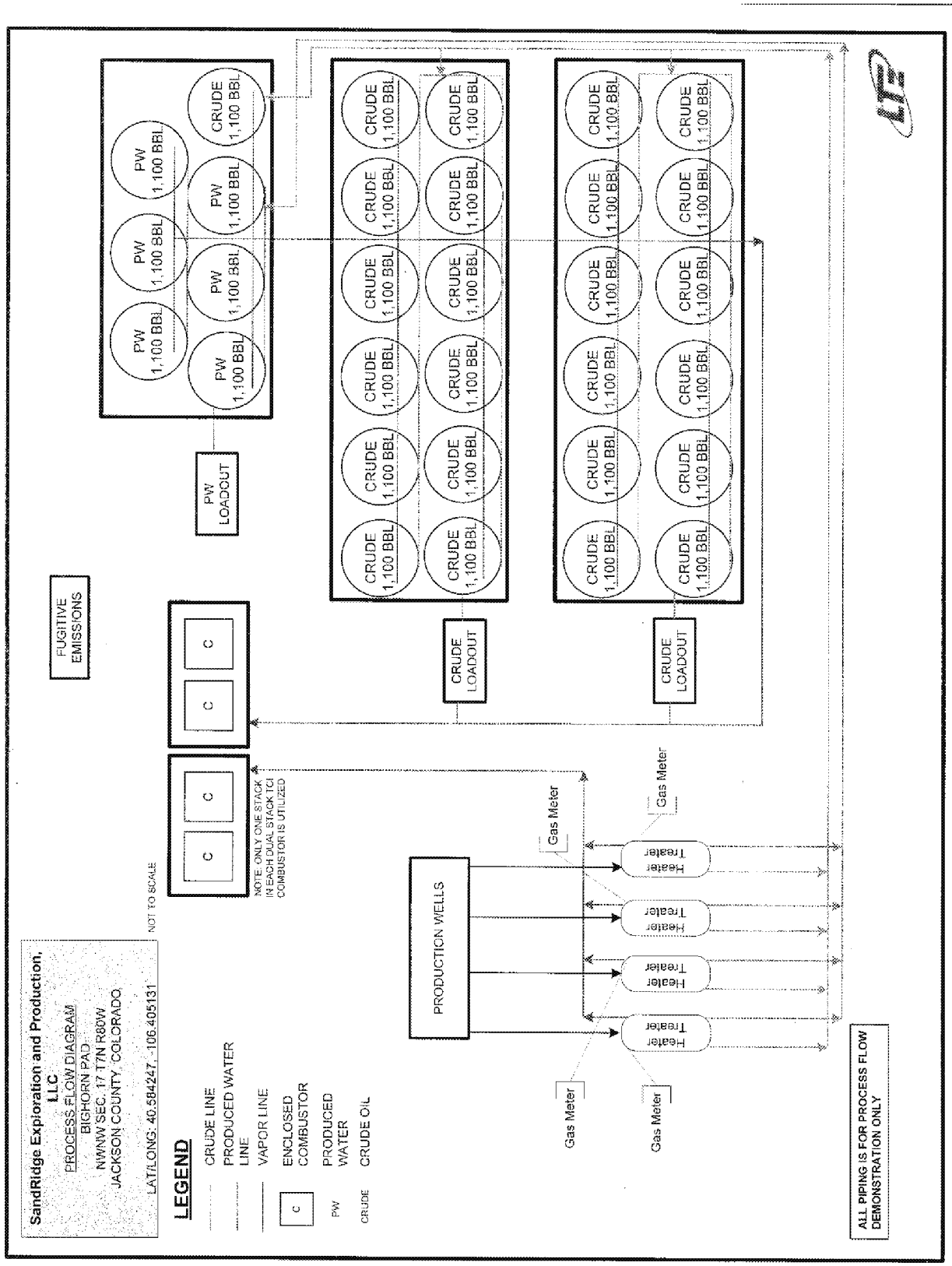
   The following list of insignificant activities was provided by the source to assist in the understanding of the facility layout. Since there is no requirement to update such a list, activities may have changed since the last filing.

   *Each individual piece of fuel burning equipment, other than smokehouse generators and internal combustion engines, that use gaseous fuel, and that has a design rate less than or equal to five million British thermal units per hour (Reg. 3, Part C.II.E.3.k)

   - Two (2) 2 MMBtu/hr separator heaters

   *Air pollution emission units, operation or activities with emissions less than the appropriate de minimis reporting level (Reg. 3, Part C.II.E.3.a)

   - Fugitive emissions



APPENDIX B

Reporting Requirements and Definitions

with codes ver 8/20/14

Please note that, pursuant to 113(c)(2) of the federal Clean Air Act, any person who knowingly:

(A) makes any false material statement, representation, or certification in, or omits material information from, or knowingly alters, conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required pursuant to the Act to be either filed or maintained (whether with respect to the requirements imposed by the Administrator or by a State);

(B) fails to notify or report as required under the Act; or

(C) falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required to be maintained or followed under the Act shall, upon conviction, be punished by a fine pursuant to title 18 of the United States Code, or by imprisonment for not more than 2 years, or both. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

The permittee must comply with all conditions of this operating permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

The Part 70 Operating Permit program requires three types of reports to be filed for all permits. All required reports must be certified by a responsible official.

Report #1: Monitoring Deviation Report (due at least every six months)

For purposes of this operating permit, the Division is requiring that the monitoring reports are due every six months unless otherwise noted in the permit. All instances of deviations from permit monitoring requirements must be clearly identified in such reports.

For purposes of this operating permit, monitoring means any condition determined by observation, by data from any monitoring protocol, or by any other monitoring which is required by the permit as well as the recordkeeping associated with that monitoring. This would include, for example, fuel use or process rate monitoring, fuel analyses, and operational or control device parameter monitoring.

Report #2: Permit Deviation Report (must be reported "promptly")

In addition to the monitoring requirements set forth in the permits as discussed above, each and every requirement of the permit is subject to deviation reporting. The reports must address deviations from permit requirements, including those attributable to malfunctions as defined in this Appendix, the probable cause of such deviations, and any corrective actions or preventive measures taken. All deviations from any term or condition of the permit are required to be summarized or referenced in the annual compliance certification.

For purposes of this operating permit, "malfunction" shall refer to both emergency conditions and malfunctions. Additional discussion on these conditions is provided later in this Appendix.

For purposes of this operating permit, the Division is requiring that the permit deviation reports are due as set forth in General Condition 21. Where the underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, that definition or time frame shall govern. For example, quarterly Excess Emission Reports required by an NSPS or Regulation No. 1, Section IV.

In addition to the monitoring deviations discussed above, included in the meaning of deviation for the purposes of this operating permit are any of the following:

(1) A situation where emissions exceed an emission limitation or standard contained in the permit;

(2) A situation where process or control device parameter values demonstrate that an emission limitation or standard contained in the permit has not been met;

(3) A situation in which observations or data collected demonstrates noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit; or,

(4) A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred. (only if the emission point is subject to CAM)

For reporting purposes, the Division has combined the Monitoring Deviation Report with the Permit Deviation Report. All deviations shall be reported using the following codes:

1 = Standard:	When the requirement is an emission limit or standard
2 = Process:	When the requirement is a production/process limit
3 = Monitor:	When the requirement is monitoring
4 = Test:	When the requirement is testing
5 = Maintenance:	When required maintenance is not performed
6 = Record:	When the requirement is recordkeeping
7 = Report:	When the requirement is reporting

8 = CAM: A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred.

9 = Other: When the deviation is not covered by any of the above categories

Report #3: Compliance Certification (annually, as defined in the permit)

Submission of compliance certifications with terms and conditions in the permit, including emission limitations, standards, or work practices, is required not less than annually.

Compliance Certifications are intended to state the compliance status of each requirement of the permit over the certification period. They must be based, at a minimum, on the testing and monitoring methods specified in the permit that were conducted during the relevant time period. In addition, if the owner or operator knows of other material information (i.e. information beyond required monitoring that has been specifically assessed in relation to how the information potentially affects compliance status), that information must be identified and addressed in the compliance certification. The compliance certification must include the following:

- The identification of each term or condition of the permit that is the basis of the certification;
- Whether or not the method(s) used by the owner or operator for determining the compliance status with each permit term and condition during the certification period was the method(s) specified in the permit. Such methods and other means shall include, at a minimum, the methods and means required in the permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Clean Air Act, which prohibits knowingly making a false certification or omitting material information;
- The status of compliance with the terms and conditions of the permit, and whether compliance was continuous or intermittent. The certification shall identify each deviation and take it into account in the compliance certification. Note that not all deviations are considered violations.[1]
- Such other facts as the Division may require, consistent with the applicable requirements to which the source is subject, to determine the compliance status of the source.

The Certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 (the

[1] For example, given the various emissions limitations and monitoring requirements to which a source may be subject, a deviation from one requirement may not be a deviation under another requirement which recognizes an exception and/or special circumstances relating to that same event.

Compliance Assurance Monitoring (CAM) Rule) has occurred. (only for emission points subject to CAM)

Note the requirement that the certification shall identify each deviation and take it into account in the compliance certification. Previously submitted deviation reports, including the deviation report submitted at the time of the annual certification, may be referenced in the compliance certification.

Startup, Shutdown, Malfunctions and Emergencies,

Understanding the application of Startup, Shutdown, Malfunctions and Emergency Provisions, is very important in both the deviation reports and the annual compliance certifications.

Startup, Shutdown, and Malfunctions

Please note that exceedances of some New Source Performance Standards (NSPS) and Maximum Achievable Control Technology (MACT) standards that occur during Startup, Shutdown or Malfunctions may not be considered to be non-compliance since emission limits or standards often do not apply unless specifically stated in the NSPS. Such exceedances must, however, be reported as excess emissions per the NSPS/MACT rules and would still be noted in the deviation report. In regard to compliance certifications, the permittee should be confident of the information related to those deviations when making compliance determinations since they are subject to Division review. The concepts of Startup, Shutdown and Malfunctions also exist for Best Available Control Technology (BACT) sources, but are not applied in the same fashion as for NSPS and MACT sources.

Emergency Provisions

Under the Emergency provisions of Part 70 certain operational conditions may act as an affirmative defense against enforcement action if they are properly reported.

DEFINITIONS

Malfunction (NSPS) means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Malfunction (SIP) means any sudden and unavoidable failure of air pollution control equipment or process equipment or unintended failure of a process to operate in a normal or usual manner. Failures that are primarily caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

Emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

APPENDIX B: Monitoring and Permit Deviation Report - Part I

1. Following is the **required** format for the Monitoring and Permit Deviation report to be submitted to the Division as set forth in General Condition 21. The Table below must be completed for all equipment or processes for which specific Operating Permit terms exist.

2. Part II of this Appendix B shows the format and information the Division will require for describing periods of monitoring and permit deviations, or malfunction or emergency conditions as indicated in the Table below. One Part II Form must be completed for each Deviation. Previously submitted reports (e.g. EER's or malfunctions) may be referenced and the form need not be filled out in its entirety.

FACILITY NAME: SandRidge Exploration and Production, LLC – Bighorn Pad
OPERATING PERMIT NO: 17OPJA401
REPORTING PERIOD:_____ (see first page of the permit for specific reporting period and dates)

Operating Permit Unit ID	Unit Description	Deviations noted During Period?[1]		Deviation Code [2]	Malfunction/Emergency Condition Reported During Period?	
		YES	NO		YES	NO
Crude Oil Tanks (AIRS 001)	Twenty-five (25) 1,100 barrel Fixed Roof Storage Vessels used to Store Crude Oil, Controlled with a Zeeco EGF-7-40 Enclosed Combustor and an Emergency Backup Open Flare					
Flare-1 (AIRS 002)	One (1) TCI 4800 Enclosed Combustor for Flaring of Produced Gas from Heater-Treaters					
PW Tanks (AIRS 003)	Six (6) 1,100 barrel Fixed Roof Storage Vessels used to Store Produced Water					
Crude Load-out (AIRS 004)	Truck Loadout of Stored Crude Oil					
General Conditions						
Insignificant Activities						

[1] See previous discussion regarding what is considered to be a deviation. Determination of whether or not a deviation has occurred shall be based on a reasonable inquiry using readily available information.

[2] Use the following entries, as appropriate

1 = Standard: When the requirement is an emission limit or standard
2 = Process: When the requirement is a production/process limit
3 = Monitor: When the requirement is monitoring
4 = Test: When the requirement is testing

5 = Maintenance:	When required maintenance is not performed
6 = Record:	When the requirement is recordkeeping
7 = Report:	When the requirement is reporting
8 = CAM:	A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred.
9 = Other:	When the deviation is not covered by any of the above categories

APPENDIX B: Monitoring and Permit Deviation Report - Part II

FACILITY NAME: SandRidge Exploration and Production, LLC – Bighorn Pad
OPERATING PERMIT NO: 17OPJA401
REPORTING PERIOD:

Is the deviation being claimed as an: Emergency _____ Malfunction_____ N/A

(For NSPS/MACT) Did the deviation occur during: Startup _____ Shutdown _____ Malfunction _____

Normal Operation _____

OPERATING PERMIT UNIT IDENTIFICATION:

Operating Permit Condition Number Citation

Explanation of Period of Deviation

Duration (start/stop date & time)

Action Taken to Correct the Problem

Measures Taken to Prevent a Reoccurrence of the Problem

Dates of Malfunctions/Emergencies Reported (if applicable)

Deviation Code _____ Division Code QA: _____

SEE EXAMPLE ON THE NEXT PAGE

EXAMPLE

FACILITY NAME: Acme Corp.
OPERATING PERMIT NO: 96OPZZXXX
REPORTING PERIOD: 1/1/04 - 6/30/06

Is the deviation being claimed as an: Emergency _____ Malfunction __XX____ N/A

(For NSPS/MACT) Did the deviation occur during: Startup _____ Shutdown _____ Malfunction
Normal Operation _____

OPERATING PERMIT UNIT IDENTIFICATION:

Asphalt Plant with a Scrubber for Particulate Control - Unit XXX

Operating Permit Condition Number Citation

Section II, Condition 3.1 - Opacity Limitation

Explanation of Period of Deviation

Slurry Line Feed Plugged

Duration

START- 1730 4/10/06
END- 1800 4/10/06

Action Taken to Correct the Problem

Line Blown Out

Measures Taken to Prevent Reoccurrence of the Problem

Replaced Line Filter

Dates of Malfunction/Emergencies Reported (if applicable)

5/30/06 to A. Einstein, APCD

Deviation Code _____ Division Code QA: _____

APPENDIX B: Monitoring and Permit Deviation Report - Part III

REPORT CERTIFICATION

SOURCE NAME: SandRidge Exploration and Production, LLC – Bighorn Pad

FACILITY IDENTIFICATION NUMBER: 057-0051

PERMIT NUMBER: 17OPJA401

REPORTING PERIOD:_____ (see first page of the permit for specific reporting period and dates)

All information for the Title V Semi-Annual Deviation Reports must be certified by a responsible official as defined in Colorado Regulation No. 3, Part A, Section I.B. This signed certification document must be packaged with the documents being submitted.

STATEMENT OF COMPLETENESS

I have reviewed the information being submitted in its entirety and, based on information and belief formed after reasonable inquiry, I certify that the statements and information contained in this submittal are true, accurate and complete.

Please note that the Colorado Statutes state that any person who knowingly, as defined in Sub-Section 18-1-501(6), C.R.S., makes any false material statement, representation, or certification in this document is guilty of a misdemeanor and may be punished in accordance with the provisions of Sub-Section 25-7 122.1, C.R.S.

Printed or Typed Name | Title

Signature of Responsible Official | Date Signed

Note: Deviation reports shall be submitted to the Division at the address given in Appendix D of this permit. No copies need be sent to the U.S. EPA.

APPENDIX C

Required Format for Annual Compliance Certification Reports

Following is the format for the Compliance Certification report to be submitted to the Division and the U.S. EPA annually based on the effective date of the permit. The Table below must be completed for all equipment or processes for which specific Operating Permit terms exist.

FACILITY NAME: SandRidge Exploration and Production, LLC – Bighorn Pad

OPERATING PERMIT NO: 17OPJA401
REPORTING PERIOD:

I. Facility Status

___ During the entire reporting period, this source was in compliance with **ALL** terms and conditions contained in the Permit, each term and condition of which is identified and included by this reference. The method(s) used to determine compliance is/are the method(s) specified in the Permit.

___ With the possible exception of the deviations identified in the table below, this source was in compliance with all terms and conditions contained in the Permit, each term and condition of which is identified and included by this reference, during the entire reporting period. The method used to determine compliance for each term and condition is the method specified in the Permit, unless otherwise indicated and described in the deviation report(s). Note that not all deviations are considered violations.

Operating Permit Unit ID	Unit Description	Deviations Reported [1]		Monitoring Method per Permit?[2]		Was compliance continuous or intermittent?[3]	
		Previous	Current	YES	NO	Continuous	Intermittent
Crude Oil Tanks (AIRS 001)	Twenty-five (25) 1,100 barrel Fixed Roof Storage Vessels used to Store Crude Oil, Controlled with a Zeeco EGF-7-40 Enclosed Combustor and an Emergency Backup Open Flare						
Flare-1 (AIRS 002)	One (1) TCI 4800 Enclosed Combustor for Flaring of Produced Gas from Heater-Treaters						
PW Tanks (AIRS 003)	Six (6) 1,100 barrel Fixed Roof Storage Vessels used to Store Produced Water						
Crude Load-out (AIRS 004)	Truck Loadout of Stored Crude Oil						
General Conditions							
Insignificant Activities [4]							

[1] If deviations were noted in a previous deviation report, put an "X" under "previous". If deviations were noted in the current deviation report (i.e. for the last six months of the annual reporting period), put an "X" under "current". Mark both columns if both apply.

[2] Note whether the method(s) used to determine the compliance status with each term and condition was the method(s) specified in the permit. If it was not, mark "no" and attach additional information/explanation.

[3] Note whether the compliance status with of each term and condition provided was continuous or intermittent. "Intermittent Compliance" can mean either that noncompliance has occurred or that the owner or operator has data sufficient to certify compliance only on an intermittent basis. Certification of intermittent compliance therefore does not necessarily mean that any noncompliance has occurred.

NOTE:

The Periodic Monitoring requirements of the Operating Permit program rule are intended to provide assurance that even in the absence of a continuous system of monitoring the Title V source can demonstrate whether it has operated in continuous compliance for the duration of the reporting period. Therefore, if a source 1) conducts all of the monitoring and recordkeeping required in its permit, even if such activities are done periodically and not continuously, and if 2) such monitoring and recordkeeping does not indicate non-compliance, and if 3) the Responsible Official is not aware of any credible evidence that indicates non-compliance, then the Responsible Official can certify that the emission point(s) in question were in continuous compliance during the applicable time period.

[4] Compliance status for these sources shall be based on a reasonable inquiry using readily available information.

II. Status for Accidental Release Prevention Program:

A. This facility _____ is subject _____ is not subject to the provisions of the Accidental Release Prevention Program (Section 112(r) of the Federal Clean Air Act)

B. If subject: The facility _____ is _____ is not in compliance with all the requirements of section 112(r).

1. A Risk Management Plan _____ will be _____ has been submitted to the appropriate authority and/or the designated central location by the required date.

III. Certification

All information for the Annual Compliance Certification must be certified by a responsible official as defined in Colorado Regulation No. 3, Part A, Section I.B. This signed certification document must be packaged with the documents being submitted.

I have reviewed this certification in its entirety and, based on information and belief formed after reasonable inquiry, I certify that the statements and information contained in this certification are true, accurate and complete.

Please note that the Colorado Statutes state that any person who knowingly, as defined in § 18-1-501(6), C.R.S., makes any false material statement, representation, or certification in this document is guilty of a misdemeanor and may be punished in accordance with the provisions of § 25-7 122.1, C.R.S.

Printed or Typed Name | Title

Signature Date Signed

NOTE: All compliance certifications shall be submitted to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit.

APPENDIX D

Notification Addresses

1. **Air Pollution Control Division**

Colorado Department of Public Health and Environment
Air Pollution Control Division
Operating Permits Unit
APCD-SS-B1
4300 Cherry Creek Drive S.
Denver, CO 80246-1530

ATTN: Matt Burgett

2. **United States Environmental Protection Agency**

Compliance Notifications:

Office of Enforcement, Compliance and Environmental Justice
Mail Code 8ENF-T
U.S. Environmental Protection Agency, Region VIII
1595 Wynkoop Street
Denver, Colorado 80202-1129

502(b)(10) Changes, Off Permit Changes:

Office of Partnerships and Regulatory Assistance
Mail Code 8P-AR
U.S. Environmental Protection Agency, Region VIII
1595 Wynkoop Street
Denver, Colorado 80202-1129

APPENDIX E

Permit Acronyms

Listed Alphabetically:

AIRS -	Aerometric Information Retrieval System
AP-42 -	EPA Document Compiling Air Pollutant Emission Factors
APEN -	Air Pollution Emission Notice (State of Colorado)
APCD -	Air Pollution Control Division (State of Colorado)
ASTM -	American Society for Testing and Materials
BACT -	Best Available Control Technology
BTU -	British Thermal Unit
CAA -	Clean Air Act (CAAA = Clean Air Act Amendments)
CCR -	Colorado Code of Regulations
CEM -	Continuous Emissions Monitor
CF -	Cubic Feet (SCF = Standard Cubic Feet)
CFR -	Code of Federal Regulations
CO -	Carbon Monoxide
COM -	Continuous Opacity Monitor
CRS -	Colorado Revised Statute
EF -	Emission Factor
EPA -	Environmental Protection Agency
FI -	Fuel Input Rate in MMBtu/hr
FR -	Federal Register
G -	Grams
Gal -	Gallon
GPM -	Gallons per Minute
HAPs -	Hazardous Air Pollutants
HP -	Horsepower
HP-HR -	Horsepower Hour (G/HP-HR = Grams per Horsepower Hour)
LAER -	Lowest Achievable Emission Rate
LBS -	Pounds
M -	Thousand
MM -	Million
MMscf -	Million Standard Cubic Feet
MMscfd -	Million Standard Cubic Feet per Day
N/A or NA -	Not Applicable
NOx -	Nitrogen Oxides
NESHAP -	National Emission Standards for Hazardous Air Pollutants
NSPS -	New Source Performance Standards
P -	Process Weight Rate in Tons/Hr
PE -	Particulate Emissions
PM -	Particulate Matter
PM_{10} -	Particulate Matter Under 10 Microns

PSD - Prevention of Significant Deterioration
PTE - Potential To Emit
RACT - Reasonably Available Control Technology
SCC - Source Classification Code
SCF - Standard Cubic Feet
SIC - Standard Industrial Classification
SO_2 - Sulfur Dioxide
TPY - Tons Per Year
TSP - Total Suspended Particulate
VOC - Volatile Organic Compounds

APPENDIX F

Permit Modifications

DATE OF REVISION	TYPE OF REVISION	SECTION NUMBER, CONDITION NUMBER	DESCRIPTION OF REVISION

APPENDIX G

Compliance Assurance Monitoring Plan

I. Background

a. Emission Unit Description:

Point 001 – Twenty-five (25) 1,100 barrel Fixed Roof Storage Vessels used to Store Crude Oil

Point 002 – One (1) TCI 4800 Enclosed Combustor for Flaring of Produced Gas from Heater-Treaters

b. Applicable Regulation, Emission Limit, Monitoring Requirements:

Regulations:	Point 001: Operating Permit Section II, Condition 1.7 (underlying Colorado Construction Permit 16JA1055) Point 002: Operating Permit Section II, Condition 2.9 (underlying Colorado Construction Permit 16JA1055)
Emission Limitations:	Point 001: VOC 101.7 tons/yr Point 002: VOC 100.65 tons/yr
Monitoring Requirements:	Semi-annual stack test and annual site specific extended wet gas analysis

c. Control Technology:

Point 002:
TCI 4800 Enclosed Combustor

II. Monitoring Approach

Crude Oil Storage Tanks (AIRS ID 001) Enclosed Combustor			
		Compliance Indicators	
		Indicator No. 1	Indicator No. 2
I.	**Indicator**	Work Practice	Work Practice
a.	Measurement Approach	Visual pilot light and auto-igniter monitoring	Visible emissions observation
II.	**Indicator Range**	Excursions, for the purposes of reporting, are defined as the absence of a continuous pilot light	Excursions, for the purposes of reporting, is defined as visible emissions being present
III.	**Performance Criteria**		
a.	Data Representativeness	Not applicable	Not applicable
b.	Verification of Operational Status	Unit is maintained per manufacturer guidance	Unit is maintained per manufacturer guidance
c.	QA/QC Practices/Criteria	Monthly LDAR inspections	Monthly LDAR inspections
d.	Monitoring Frequency	Daily	Daily
e.	Data Collection Procedures	Records are kept for at least five years	Records are kept for at least five years
f.	Averaging Time	Not applicable	Not applicable

Crude Oil Storage Tanks (AIRS ID 001) Emergency Backup Flare			
		Compliance Indicators	
		Indicator No. 1	Indicator No. 2
I.	**Indicator**	Work Practice	Work Practice
a.	Measurement Approach	Visual pilot light and auto-igniter monitoring	Visible emissions observation
II.	**Indicator Range**	Excursions, for the purposes of reporting, are defined as the absence of a continuous pilot light	Excursions, for the purposes of reporting, is defined as visible emissions being present
III.	**Performance Criteria**		
a.	Data Representativeness	Not applicable	Not applicable
b.	Verification of Operational Status	Unit is maintained per manufacturer guidance	Unit is maintained per manufacturer guidance
c.	QA/QC Practices/Criteria	Monthly LDAR inspections	Monthly LDAR inspections
d.	Monitoring Frequency	Daily	Daily
e.	Data Collection Procedures	Records are kept for at least five years	Records are kept for at least five years
f.	Averaging Time	Not applicable	Not applicable

Justification

a. Background:

The crude oil storage tanks are subject to a process limitation of 1,082,371 bbl/yr and operate with an enclosed flare control VOC and HAP emissions. The tank enclosed flare is required to achieve an average hydrocarbon control efficiency of 98.5%. The Facility must monitor monthly process rates based on calendar month.

b. Rationale for Selection of Performance Indicators and Indicator Ranges

The performance indicators and indicator ranges are based on the Facility's approved O&M Plan for the crude oil storage tanks. The manufacturer's design criteria and the certification test for this source also serve as justification. As long as the tank enclosed flare and open flare have operational pilot lights and no visible emissions, and are being operated in accordance with manufacturer recommendations, then VOC emissions will be controlled by the flares in accordance with the Facility's permit and Colorado regulations.

Heater Treater (AIRS ID 002) Enclosed Combustor			
		Compliance Indicators	
		Indicator No. 1	Indicator No. 2
I.	**Indicator**	Work Practice	Work Practice
a.	Measurement Approach	Visual pilot light and auto-igniter monitoring	Visible emissions observation
II.	**Indicator Range**	Excursions, for the purposes of reporting, are defined as the absence of a continuous pilot light	Excursions, for the purposes of reporting, is defined as visible emissions being present
III.	**Performance Criteria**		
a.	Data Representativeness	Not applicable	Not applicable
b.	Verification of Operational Status	Unit is maintained per manufacturer guidance	Unit is maintained per manufacturer guidance
c.	QA/QC Practices/Criteria	Monthly LDAR inspections	Monthly LDAR inspections
d.	Monitoring Frequency	Daily	Daily
e.	Data Collection Procedures	Records are kept for at least five years	Records are kept for at least five years
f.	Averaging Time	Not applicable	Not applicable

Justification

a. Background:

The produced gas venting operations are subject to a process limitation of 438 MMscf/yr and operate with an enclosed combustor to control VOC and HAP emissions. The produced gas enclosed combustor is required to achieve an average hydrocarbon control efficiency of 98%. The Facility must continuously monitor and record the volumetric flow from the separators to the produced gas enclosed combustor using a flow meter.

b. Rationale for Selection of Performance Indicators and Indicator Ranges

The performance indicators and indicator ranges are based on the Facility's approved O&M Plan for the venting operations from the enclosed combustor on the separators. The combustor manufacturer's design criteria and the certification test for this source also serve as justification. As long as the produced gas enclosed combustor has an operational pilot light and no visible emissions, is being operated in accordance with manufacturer recommendations, and passes the initial and semi-annual stack tests, then VOC emissions will be controlled by the flares in accordance with the Facility's permit and Colorado regulations.